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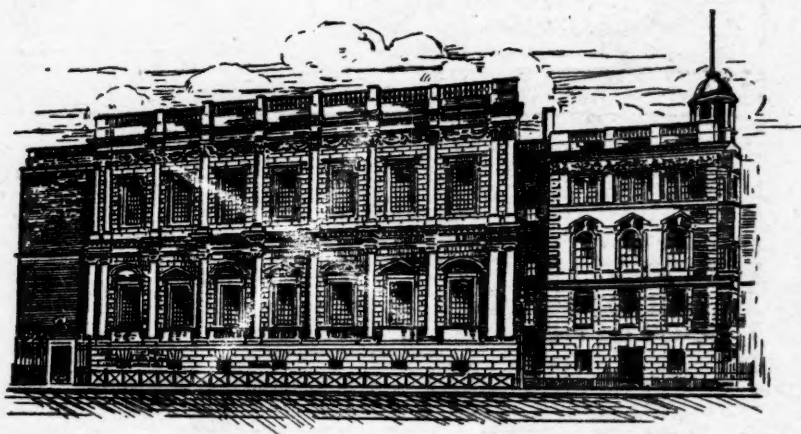
**JOURNAL**  
*of the*  
**Royal United Service  
Institution.**



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## CONTENTS FOR AUGUST, 1926.

|   | PAGE |
|---|------|
| SECRETARY'S NOTES .. .. .   | i.   |
| COLOURED FRONTISPIECE: "AN OPPOSED LANDING IN 1745" .. ..   | —    |
| THE DEVELOPMENT OF CLOSER RELATIONS BETWEEN THE MILITARY FORCES<br>OF THE EMPIRE. (Lecture). By LIEUT.-COLONEL H. D. G. CRERAR,<br>D.S.O. .. .. . | 441  |
| THE COMMITTEE OF IMPERIAL DEFENCE: ITS EVOLUTION AND PROSPECTS.<br>By MAJOR-GENERAL SIR GEORGE ASTON, K.C.B. .. .. .                              | 456  |
| THE RED GENERAL STAFF ACADEMY OF SOVIET RUSSIA .. .. .  | 464  |
| INTELLIGENCE IN THE FUTURE. By LIEUT.-COLONEL H. G. DE WATTE-<br>VILLE, C.B.E. .. .. .  | 478  |
| STRATEGY OF INFERIOR NAVAL FORCES. By LIEUT.-COMMANDER A. H. L.<br>TERRY, D.S.C., R.N. .. .. .  | 490  |
| THE NATION IN RELATION TO ITS ARMED FORCES. (Lecture). By COLONEL<br>J. P. VILLIERS-STUART, C.B., D.S.O., O.B.E. .. .. .                          | 500  |
| EVOLUTION OF THE MODERN RANGEFINDERS. By MAJOR K. F. DUNSTER-<br>VILLE, D.S.O., R.A. .. .. .  | 514  |
| AIRCRAFT CARRIERS IN A FLEET ACTION. By LIEUTENANT A. W. CLARKE,<br>R.N. .. .. .  | 521  |
| PLATE 1. "SHIP MODEL REPAIRING IN THE ROYAL UNITED SERVICE<br>INSTITUTION" .. .. .  | 526  |
| PLATE 2. "FLIGHT FORMATION" .. .. .   | 527  |
| IMPERIAL AIR ROUTES AND THEIR DEFENCE. By CAPTAIN M. C. ENSOR<br>SHARP .. .. .  | 527  |
| ORGANIZATION OF THE MEDICAL SERVICE IN THE FIELD. By MAJOR<br>M. B. H. RITCHIE, D.S.O., R.A.M.C. .. .. .  | 539  |

Continued on page 3.

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**CONTENTS—continued from page 1.**

|   | PAGE |
|---|------|
| FIELD INTELLIGENCE. By MAJOR B. C. DENING, R.E., <i>p.s.c.</i> .. ..  | 550  |
| THE PAYMENT OF SOLDIERS: ITS ORIGIN AND HISTORY. By CAPTAIN<br>T. J. EDWARDS .. ..                                | 556  |
| HUMAN NATURE AND THE SOLDIER. By CAPTAIN F. A. S. CLARKE, D.S.O.  | 564  |
| WAZIRISTAN CIRCULAR ROAD. By "ROUSSEAU" .. ..   | 569  |
| WARFARE IN MOROCCO, 1925-26. By Courtesy of the French Military<br>Attaché .. ..                                  | 572  |
| DOCTRINE OF CONTINUOUS VOYAGE. By THE RIGHT HON. SIR FREDERICK<br>POLLOCK, BART., P.C., LL.D., D.C.L., K.C. .. .. | 580  |
| THE INTERNATIONAL SITUATION:—   |      |
| THE TREATY OF LOCARNO .. ..   | 584  |
| THE LIMITATION OF ARMAMENTS .. ..   | 588  |
| A GRECO-BULGARIAN FRONTIER INCIDENT .. ..   | 592  |
| THE SITUATION IN CHINA .. ..  | 594  |
| CORRESPONDENCE .. ..  | 600  |
| GENERAL SERVICE NOTES .. ..   | 605  |
| NAVY NOTES .. ..  | 609  |
| ARMY NOTES .. ..  | 623  |
| AIR NOTES .. ..   | 635  |
| AIRSHIP NOTES .. ..   | 646  |
| REVIEWS AND NOTICES OF BOOKS .. ..  | 647  |
| PRINCIPAL ADDITIONS TO THE LIBRARY .. ..  | 659  |

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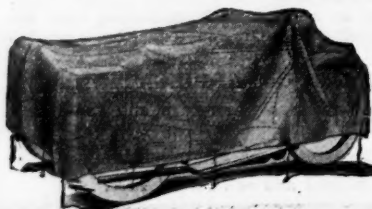
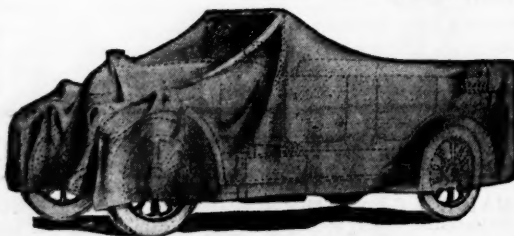
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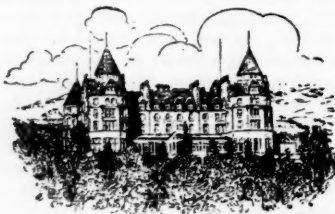
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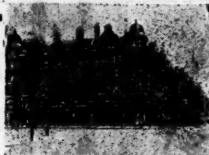
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## SECRETARY'S NOTES.

### I.—Council.

Captain The Viscount Curzon, C.B.E., V.D., M.P., A.D.C., R.N.V.R., has been elected a Member of the Council vice Captain The Viscount Tredegar, C.B.E., R.N.V.R., who has resigned (under Chapter IV, paragraph 9 of the Bye-Laws).

Major-General A. R. Cameron, C.B., C.M.G., Director of Staff Duties, has been appointed a Member of the Council as the official representative of the War Office, vice Major-General Sir J. T. Burnett-Stuart, K.B.E., C.B., C.M.G., D.S.O.

### II.—Librarian.

Major H. G. Parkyn, O.B.E., will terminate his appointment as Librarian in March next, having been appointed to a similar post at the Staff College. The Council ask for applications for the appointment from Members of the Institution of all branches of the Service, which must be received by the Secretary not later than 30th September. A candidate should have a competent knowledge of Library work and be able to assist officers for their promotion and Staff College examinations. The age will be governed by the Council's Standing Orders as to the retirement of members of the Staff of the Institution at the age of sixty. The salary appertaining to the appointment is £325 per annum, working up to £375 by £10 a year.

### III.—Officers Joined.

The following Officers joined the Institution during the months of May, June and July, viz. :—

Lieutenant C. H. D. Berthon, I.A.  
Captain P. R. H. Skrine, I.A.  
Major J. F. Parkin, D.S.O., I.A.  
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Lieutenant B. N. R. Biggie, South Staffordshire Regiment.  
Major-General S. R. Davidson, C.B., C.M.G., late I.A.  
Lieutenant J. F. M. Moulton, Royal Marines.  
Captain P. A. Ullman, R.E.  
Lieut.-Colonel C. B. Price, Canadian Forces.  
Captain A. E. Tawney, M.C., R.A.  
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Wing-Commander A. J. Miley, O.B.E., R.A.F.  
Captain R. V. C. Cavendish, M.C., Sherwood Foresters.  
Lieutenant C. V. King, I.A.  
Captain H. L. Davies, M.C., I.A.  
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Lieutenant F. I. Gerrard, M.C., Royal Highlanders.  
Captain J. Le C. Fowle, I.A.  
Lieutenant H. M. Burton, Norfolk Regiment.  
Second-Lieutenant D. S. E. West, Cheshire Regiment.  
Major J. E. L. Gibbes, late Bedfordshire and Hertfordshire Regiment.  
Captain B. W. Key, M.C., I.A.  
Lieut.-Commander P. C. W. Manwaring, R.N.  
Captain E. L. G. Griffith-Williams, D.S.O., M.C., R.A.  
Lieut.-Colonel J. R. Heelis, M.C., Manchester Regiment.  
Captain H. S. Lewis-Barclay, I.A.  
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Flight-Lieutenant J. Bussey, R.A.F.  
Captain J. G. Johnstone, Royal Marines.  
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Lieutenant A. N. Skinner, R.A.  
Lieutenant B. G. Symes, Dorsetshire Regiment.  
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 Lieutenant H. U. Richards, Worcestershire Regiment.

#### IV.—Lectures.

The Lecture Card for the Session 1926-27 is approaching completion, and will be issued to Members towards the end of September.

#### V.—Admission to Lectures.

Members are reminded that they are able to introduce two visitors to each Lecture. When a Member does not attend himself, it is necessary that such visitors should hand in his visiting card at the entrance.

#### VI.—The Museum.

The amount taken for admission to the Museum during the past quarter was :—

£54 16s. in May.  
 £77 4s. in June.  
 £121 15s. in July.

##### ADDITIONS.

- (7911) Collection of 156 Naval and Marine Buttons of the British, Indian and Dominion Services covering the period 1708-1926.—Given by Commander A. Rowand, D.S.O., late R.I.M.
- (7912) The following Uniform worn by Colonel Keith Young, C.B., Judge Advocate General of the Army in India (Bengal), who held the appointment from 1852 until he died in 1862, viz. :—
  - (a) Cocked hat and plume ;
  - (b) Pouch belt with pouch ;

- (c) Full dress coattee with epaulettes ;
- (d) Undress coattee ;
- (e) Scarlet shell jacket and vest ;
- (f) Blue braided surtout, vest and overalls ; one pair of spurs ;
- (g) Two dress waist belts ;
- (h) Sash, girdle and crimson silk lines ;
- (i) Two undress caps ;
- (j) Saddle cloth.

Given by Mrs. Ingles and Miss Keith Young.

- (7913) An Oil Painting by T. Luny representing the British Fleet under Lord Howe bringing into Spithead six French Men-of-War captured on the glorious First of June, 1794.—Given by W. M. de Zoete, Esq.

- (7914) Two Medals awarded to the Rathdowny Volunteers :—

- (a) Silver Medal awarded C. O. Learey, Rathdowny Cavalry, 1796, for skill at arms ;
- (b) Silver Medal, Rathdowny Volunteers, 1776, inscribed "Colonel J. Palmer, merit rewarded."

Given by Lieut.-Colonel H. F. N. Jourdain.

- (7915) The following Badges of the Camel Transport Corps, formed in Egypt, 1915, and disbanded at the close of the Great War, viz. :—

- (a) Cap Badge ;
- (b) Helmet patch ;
- (c) Shoulder strap badge.

Given by Major S. S. Flower, O.B.E.

- (7916) Marble Bust of the late Field-Marshal The Earl Kitchener of Khartoum, K.G., K.P., G.C.B., O.M., G.C.S.I., G.C.M.G., G.C.I.E., executed by the late Sir William H. Thornycroft, Knt., R.A.—Given by Lady Thornycroft.

- (7917) An Oil Painting of Field-Marshal the Duke of Wellington, K.G., G.C.B., G.C.H., executed about 1817. It is three quarter length and full face, wearing blue undress uniform, with the order of the Golden Fleece and the Waterloo Medal.—Given by Colonel W. Evans, H.A.C.

- (7918) Sword which belonged to Vice-Admiral Edward Vernon (1684–1757) bequeathed to the Museum by J. C. Vernon Taylor, Esq. (10th Foot). Admiral Vernon served at the taking of Gibraltar, 1704, in the *Baltic*, 1715 and 1726, the taking of Portobello, 1739, the siege of Cartagena, 1740, and Santiago de Cuba, 1741. He introduced into the Navy the custom of serving out rum as a ration. In the collection will be found specimens of the various Medals he had struck and presented to his crews.

## VII.—Repairs to Ship Models.

The Institution undertakes the repairing and re-rigging of Ship Models ; also repairs to historical Models of various descriptions. A close estimate will be supplied by the Curator before such work is put in hand.



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| 1876. Lieutenant J. F. G. Ross of<br>Bladensburg, Coldstream Guards.       | 1903. Lieutenant A. C. Dewar, R.N.  |
| 1877. No Medal awarded.  | 1904. Lieut.-Colonel C. E. D. Telfer-<br>Smollett, 3rd Bn. South Staf-<br>fordshire Regiment. |
| 1878. Major T. Fraser, R.E.<br>Captain E. Clayton, R.A.                    | 1905. Major W. C. Bridge, South Staf-<br>fordshire Regiment, p.s.c.                           |
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| 1882. No Medal awarded.  | 1909. No Medal awarded.   |
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| 1884. Captain G. T. Browne, North-<br>amptonshire Regiment.                | 1911. Captain H. T. Russell, late<br>R.G.A.   |
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| 1886. Captain C. E. Callwell, R.A.   | 1913. Major A. Lawson, 2nd Drags.   |
| 1887. No Medal awarded.  | 1914-15-16-17. No Medals awarded.   |
| 1888. Captain J. F. Daniell, R.M.L.I.                                      | 1918. Lieutenant W. S. R. King-Hall,<br>R.N.  |
| 1889. Captain H. F. Cleveland, R.N.  | 1919. Colonel J. F. C. Fuller, D.S.O.,<br>Oxford & Bucks L.I.                                 |
| 1890. Captain G. E. Benson, R.A.   | 1920. No Medal awarded.   |
| 1891. Captain R. W. Craigie, R.N.  | 1921. Flight-Lieutenant C. J. Mackay,<br>M.C., D.F.C., R.A.F.                                 |
| 1892. Lieut.-Colonel J. Farquharson,<br>C.B., R.E.                         | 1922. Major R. Chenevix-Trench,<br>O.B.E., M.C., Royal Corps of<br>Signals.                   |
| 1893. Commander F. C. D. Sturdee,<br>R.N.                                  | 1923. Captain A. H. Norman, C.M.G.,<br>R.N.   |
| 1894. Major F. B. Elmslie, R.A.  | 1924. Major L. I. Cowper, O.B.E.,<br>King's Own Royal Regiment.                               |
| 1895. Commander J. Honner, R.N.  | 1925. Lieut.-Colonel J. C. Dundas, D.S.O.,<br>Royal Tank Corps.                               |
| 1896. Captain G. F. Ellison, Queen's<br>Royal West Surrey Regiment.        |   |
| 1897. Commander G. A. Ballard, R.N.  |   |
| 1898. Captain W. B. Brown, R.E.  |   |
| 1899. Commander G. A. Ballard, R.N.  |   |
| 1900. No Medal awarded.  |   |

## RECIPIENTS OF THE CHESNEY GOLD MEDAL

(With rank of Officers at the time of the Award).

- |  |   |
|--|---|
| 1900. Captain A. T. Mahan, United<br>States Navy.        | 1914. Sir Julian S. Corbett, LL.M.,<br>F.S.A.       |
| 1907. Major-General Sir J. F. Maurice,<br>K.C.B., p.s.c. | 1919. Major-General E. D. Swinton,<br>C.B., D.S.O.  |
| 1909. Hon. J. W. Fortescue, M.V.O.                       | 1921. Major-General Sir C. E. Callwell,<br>K.C.B.   |
| 1910. Sir J. K. Laughton, Knt., M.A.                     | 1924. Professor G. A. R. Callender,<br>M.A., F.S.A. |
| 1911. Professor C. W. C. Oman, M.A.,<br>F.S.A.           | 1925. Captain Sir George Arthur,<br>Bart., M.V.O.   |
| 1913. Colonel Sir L. A. Hale.                            |   |



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THE DEVELOPMENT OF CLOSER RELATIONS  
BETWEEN THE MILITARY FORCES OF  
THE EMPIRE

By LIEUT.-COLONEL H. D. G. CRERAR, D.S.O., p.s.c., Royal Canadian  
Artillery.

On Wednesday, 31st March, 1926, at 3 p.m.

LIEUT.-GENERAL SIR NOEL BIRCH, K.C.B., K.C.M.G. (Master-General  
of the Ordnance), in the Chair.

THE CHAIRMAN: Ladies and Gentlemen, I take it to be not only a pleasure but an honour to introduce the lecturer to you. He is an officer of one of the British Dominions, Canada, who fought for the Empire in the Imperial Forces all through the late War. I will now ask him to proceed.

I. INTRODUCTION.—When I was invited to give this lecture, I felt conscious that I lacked the qualifications which might have enabled me to do justice to such a subject. Even so, its preparation has proved more difficult than I anticipated. The trouble has been that the subject—the relations between the Military Forces of the Empire—has ever

been, and will always be, a reflection of the political relations actually prevalent at any moment between the British Government and the Governments of the Dominions. In consequence, I have not found it easy to deal with the military aspect without becoming involved in the larger question of Imperial politics.

But I am sure of my ground when I state that, although the particular method of maintaining the political unity of the Empire may be indicated differently by the Premiers of the several portions of the Empire, there exists no divergence of opinion amongst them as to the importance of that unity. I feel, therefore, that I am within my responsibilities as an officer of the Imperial Forces if I take this general political expression as authority for such suggestions as I now propose to put forward for closer military co-operation. But before proceeding to trace the development of relations between the Military Forces of the Empire and to suggest ways in which those relations can be improved and tightened, it will be as well to consider for a moment the object at which we should aim and, quite generally, the means at our disposal for attaining that object.

Let us accept at once the unity of the Empire, and the fact that the various military forces maintained in the Empire have one ultimate object, that is, Imperial Defence. Local defence is but a part of the whole problem of Imperial Defence. It is inconceivable that in the event of enemy attack on any portion of the Empire, the defence of that part will ever be left to local forces alone. A threat against any part is a threat against the whole, and against such a threat the whole resources of the Empire must and will act together. Accordingly, when we consider the development of closer relations between the Military Forces of the Empire, our object is to ensure that when the forces of two or more parts of the Empire find themselves in the field together, they should be capable of the closest possible co-operation. Our ideal should be that any Dominion formation should take its place in the Imperial Army as easily and efficiently as a formation of the Regular or Territorial Armies of Great Britain.

In 1914, the British Expeditionary Force went across the Channel to fight beside good allies—the French. The British and French forces had common objects and common interests. There had been close liaison between the General Staffs of the two countries—but they were allies and no more than allies. No one will deny that co-operation between the British Expeditionary Force and the French Army laboured under grievous handicaps. There were differences in equipment, differences in doctrine, differences in human characteristics, and a lack of mutual understanding.

It is not enough that the Imperial Forces should be allies. We must make them far more than that; they must be parts of one and the same Imperial Army.

To attain this object there are three general essentials :—

- (i) Identity of organization and equipment ;
- (ii) Identity of doctrine and training ;
- (iii) Thorough mutual understanding and confidence.

Of these, the first two, equipment and organization, and doctrine and training are comparatively easy to attain ; the third, complete human understanding, is a matter of the greatest difficulty. The first two are finite problems, the third is infinite, for however far we may progress towards it, there will always be room for yet further improvement. It is for this reason that I propose to dwell upon this human aspect of our relations.

There is one more point, which I consider should be explained before getting into the subject. The problem of military relationship is an Imperial one, affecting Great Britain and all the Dominions, but, in several of my subsequent remarks I will refer particularly to the relations between the United Kingdom and Canada. The reason is two-fold. As a Canadian, I feel that I may speak with some knowledge of our own view of the problem, yet, having never served in the other Dominions, I feel equally unqualified to suggest that my opinion offers a solution to their particular requirements. At the same time, I believe that where the difference in distance is not the governing factor, any step or suggestion which would improve the relations between the Military Forces of Great Britain and Canada, would apply, generally, to all the Dominions.

2. RELATIONS PRIOR TO 1914.—It is a fair statement, I think, to say that to the South African War, the Military Forces of the Dominions owe their practical existence. Prior to that challenge to the Empire, although there existed something stronger than a feeling that the Dominions would provide contingents when an Imperial necessity arose, there had been no test, no practical indication of the form any military assistance from the Dominions would assume. The South African War proved to the world generally and, what was more important, to the Dominions themselves that the components of the Empire were capable of military co-operation. And from that period onwards, the military organization within each Dominion has been a living force—growing gradually, and at times spasmodically—but yet, with the years, becoming an increasingly accepted responsibility of the Dominions themselves.

Two important stepping stones in the development of the Military Forces of the Empire were the Imperial Conference of 1907, and the subsidiary Imperial Naval and Military Conference of 1909, which the earlier conference brought about by its resolutions. In the first of these, the necessity was put forward, and in principle generally accepted, that there must be :

- (a) Uniformity of organization for war throughout the Empire ;  
and
- (b) Similarity in military equipment and stores.

In the second conference, while progress was reported and indicated on the decisions of the 1907 Conference, it was agreed, in addition, that each part of the Empire should make preparations on such lines as would enable it to take its share in the general defence of the Empire.

Next there followed requests by Canada, Australia and New Zealand for inspection of their military resources, to be followed by recommendations as to how these could best be applied according to the principles agreed to at the Conferences. These inspections were carried out in 1910. In the case of Canada, by the late Earl of Ypres, then Sir John French ; in Australia and New Zealand, by the late Earl Kitchener. The recommendations contained in the subsequent reports were generally adopted by the Dominions concerned, and on them were prepared the military organizations which a few years later were to be put to the supreme test.

If the results of the 1907 and 1909 Conferences and the recommendations from the inspections carried out in 1910 are examined, it is evident that great advances had been made. On the mechanical side—if I may so call it—we had accepted a uniform Imperial standard in organization, training and equipment and stores, and on the human side, following the recommendations of the Chief of the Imperial General Staff, expressed in memoranda circulated during 1908, 1909 and 1910, we find that Dominion officers were nominated to attend the Staff Colleges at Camberley and Quetta, exchange between British and Dominion officers was commenced, and a number of British officers were seconded to the Dominions to assist in the re-organization of the forces.

Such is an outline of the development of our Imperial military relationships—in the period just before the War of 1914.

3. 1914-1918.—The Great War was the test of our previous steps towards the assimilation of our Military Forces, in other words, a measure of the degree of our Imperial preparedness.

If the Imperial military situation of 1914 is compared with that of 1899, vast progress must be noted. This advance is still more striking when it is realised that the great proportion of the measures undertaken to ensure this co-ordination of military effort was subsequent to the Imperial Conference of 1909, or, in other words, in the five years immediately preceding the Great War. As one item that may be taken for comparison, in the South African War the 1st Canadian Contingent, consisting of one battalion of infantry, embarked at Halifax one month after war was declared. In 1914, the 1st Canadian Division, with reinforcements, total strength 30,500 all ranks—including in the higher



command and staff a number of Canadian officers trained in England and British regular officers on loan to Canada—embarked at Quebec within seven weeks of the declaration of war.

I do not intend to discuss further the situation as we found it in 1914. The facts are too recent to require recapitulation. As a general statement, however, it can, at least, be said that the Dominion citizen troops took their places in the field with the British Territorial formations, to which, in organization, they were comparable. Staff and troops, they fitted into the field formations. They fought in the same way. They took their share of the work. And, after all, these were the objects which had been striven for.

By 1914, personal contact between the Military Forces of the Empire had been established. As the forces of the Dominions came into the line, the advantage of even this limited mutual knowledge was many times practically demonstrated. That a commander or staff officer should know personally his senior or his opposite number in formations with which he came into contact is a factor possessing a value which needs no argument.

As the war progressed, our relationships grew even closer. Daily contact, exchange of personnel, co-operation and friendly rivalry between adjoining formations, all rendered this result inevitable. Speaking as an officer of the 1st Canadian Division and later of the Canadian Corps Headquarters, I can say that we counted the British officers who served with us as part of our organization, and the Canadian formations as an integral part of the Imperial Forces as a whole, and this was quite as it should have been.

To what extent Dominion troops proved their worth is not a matter I propose to argue, but, for the sake of another point which I would like to emphasise in a moment, let it be assumed that man for man they pulled their weight equally with the troops from this country.

This point, which I think is worth while pondering, is that the Dominions, Canada, Australia, New Zealand and South Africa, mobilised no less than 978,439 men, compared to 4,970,902 mobilised in the United Kingdom and Ireland. Or to put it differently, the Dominions mobilised one man for every five mobilised in these Islands.

Now, I think there is sufficient evidence to assume that the population of the United Kingdom has reached, if not passed, its economic limit. On the other hand, the Dominions greatest need is population, and, following the natural tendencies of supply and demand, it can, I think, be accepted that the future will show a large comparative gain in the peoples of the Dominions, as measured by the population of the United Kingdom. In other words, in twenty years time, it is not impossible that the population of the Dominions, as a whole, will equal or surpass, the population of the Mother Country.

These are important considerations, for they give an indication of the extent on which the Empire may depend on Dominion Military Forces in the next great war, if such an unhappy event comes to pass.

4. 1919-1925.—The close of the Great War found the Military Forces of the Empire moulded into a unified fighting organization. This great army then dispersed to its homes and the different portions of the Empire set about the task of re-adjustment to meet the conditions of peace. In the material sense, more liabilities than assets were found and, in our endeavour to correct our material balance, I think there has been a tendency to lose ground on the human side of our Imperial relationships.

I have said that by 1914 we had made great progress in establishing the personal touch between the Military Forces of the Empire. In my opinion, an approximate measure of the degree of this relationship might be found in time of peace in a comparison of the numbers of British and Dominion officers on loan, attachment, interchange and schools of instruction in the several portions of the Empire. I will only quote these figures in regard to Great Britain and Canada. From the records for the year ending July 31st, 1914, and for the similar period terminating in 1925, emerges the following information :—

|  |          |
|--|----------|
| 1914.—British Officers in Canada .. .. .                       | Total 37 |
| (Loan 27 ; Attachment 10).                                     |          |
| 1925.—British Officers in Canada .. .. .                       | Total 2  |
| (Interchange 2).   |          |
| 1914.—Canadian Officers in Great Britain . . . .               | Total 37 |
| (Instruction 17 ; Attending Army Man-<br>œuvres, 1913, 20).    |          |
| 1925.—Canadian Officers in Great Britain . . . .               | Total 18 |
| (Attachment 3 ; Interchange 2 ; Courses<br>of Instruction 13). |          |

The totals indicate that, although the number of Canadian Officers in Great Britain has again been brought up to a fair figure, in the case of British Officers in Canada the reverse is the case. I think this is unfortunate, for the development of a real Imperial General Staff requires a considerable number of British officers well travelled and experienced in Dominion affairs, available to fill appointments on that staff. I suggest that herein are opportunities for further progress.

5. SUGGESTIONS FOR THE FUTURE.—I have said that the Conferences of 1907 and 1909 laid sound foundations for the mechanical portion of our Imperial military organization, that is to say, similar organization, equipment, stores and training ; and I have pointed out how both before and during the War great strides were made in securing that essential personal touch, the vital importance of which is based on recognition of the fact that armies, after all, are composed of human beings.

I now wish to put before you certain suggestions which I think would make for still more effective military co-operation, suggestions which in themselves are comparatively inexpensive, and so possible at the present time.

(a) *Chiefs of Staff*.—With all due deference, I intend to start at the top, so my first suggestion concerns the duties of Chief of the Imperial General Staff and the Chiefs of Staff of the several Dominions.

With all the goodwill in the world, the writing of liaison letters and the reading of liaison reports can never obtain a fraction of the value of a personal visit and direct conversations. There are many troublesome matters which a "look, see" and a few minutes' talk would clear up, but which several thousand written words on the subject could not render comprehensible.

I realise that the Chief of the Imperial General Staff, as the appointment is now organized, could hardly be spared for six months to visit the several Dominions. However, if changes in staff organization are considered impractical, would it not be feasible and desirable that the Chief of the Imperial General Staff designate should make a tour of the Dominions before taking up his appointment at the War Office, meeting the different Chiefs of Staff, and realising the local conditions. I am sure that the very greatest benefit, in the widest sense, would result.

Complementary to the visit of the Chief of the Imperial General Staff, or of the Chief of the Imperial General Staff designate, to the Dominions, I suggest that it is very much in the Empire's interest if, at least once during their tenure of office, each of the Dominion Chiefs of Staff could spend some weeks in this country.

It is inevitable that this country should be the Imperial centre for military thought—the testing ground for future military equipment and organization. Under such circumstances it would seem essential that each Dominion Chief of Staff should obtain this information at first hand.

Finally, I would go one step further and suggest that each Dominion should be visited by at least one senior officer of the Staff at the War Office each year. The choice of such a staff officer might well depend on the nature of the most urgent military problem—whether in operations, administration or supply—to the fore in each Dominion at the time.

I do not think it is necessary to argue the advantages these personal visits would obtain. Without in any way committing their respective Governments to any departure in existing policy, the visits of these officers would undoubtedly result in a clearer mutual vision and a much better conception of the needs and difficulties of the different parts of the Empire. From such a comprehension would arise a stronger and more unified policy in all Imperial military matters.

(b) *Dominion Military Liaison Officers.*—In August, 1910, a memorandum circulated by the Chief of the Imperial General Staff recommended, amongst other things connected with closer Imperial co-operation, the formation of a Dominions section of the General Staff at the War Office. In April, 1912, this section came into being, Australia, Canada and New Zealand providing, each, one officer.

The object of creating this Dominions section is to be found in the duties ascribed to it ; these being given as :—

- (a) To study the methods of education and training and staff duties in vogue, as well as the latest ideas on organization, strategy and tactics ;
- (b) To give the Chief of the Imperial General Staff information as to local matters in their respective Dominions ;
- (c) To correspond on such questions with Dominion authorities concerned.

Since the war, this Dominions section has not been revived, although a step in that direction is to be found in the appointment by Australia of a Military Liaison Officer to the Staff of the High Commissioner for Australia, with duties similar in outline to those I have just quoted.

To my mind, it is of great importance that the example of Australia should be followed without delay by the other Dominions, and this course in preference to reviving the former plan of creating a section, composed of Dominion officers only, within the General Staff. My reasons are several. To commence with, the duties of the former Dominions section, which I have just quoted, are more properly "liaison" duties than those of a subordinate section of the General Staff. Then, I, personally, do not believe that the "imperialization" of the General Staff is really assisted by the establishment within it of a specialized Dominions section. It lies, rather, in improving the contact between *all* branches of the Staff, here and in the Dominions, not by "bottle-necking" the intercourse through a single section.

In addition to "liaison" duties, as I understand them, there are certain additional responsibilities which a Dominion military representative can usefully assume. The matter of patterns and provision of ordnance stores, purchased by any of the Dominions through its High Commissioner, might properly come under his supervision. Various details connected with Dominion officers and non-commissioned officers undergoing instruction in this country might be conveniently referred to him. Finally, he should prove helpful to his High Commissioner in representing him at meetings or functions of a military nature.

(c) *Military Attachés.*—Anything that can be done to make each portion of the Empire feel that it has its part in Imperial Defence is, admittedly, of primary importance. Occasionally, I think, we miss

opportunities in this connection just because, on the face of things, the required action may seem petty, and of no practical consequence. I suggest that one such opportunity lies in a more Imperial treatment in the appointment of Military Attachés.

As matters now stand, the British Military Attaché proceeds direct, as a general rule, to the country to which he is accredited. If a Dominion lies *en route*, it is possible that a few days may be spent there unofficially—there is no official arrangement. Surely it would be logical and have Imperial meaning, if, in the case of the United States of America, the British Military Attaché should first come to Canada and spend some weeks or months there, before taking up his appointment at Washington. Equally, for the Military Attaché at Tokyo to spend a period in Australia and New Zealand. The Dominions undoubtedly have military views about their neighbours: views which, I think, should be taken primarily into account. I know, of course, that our Staff at Ottawa enjoy close personal touch with the Military Attaché at Washington, but what I consider important is to regularise that personal contact, to “imperialize” the position of our Military Attaché, and not leave the question of his knowledge of the neighbouring Dominion to subsequent opportunities and an occasional friendly visit.

I would also like to put up for consideration, that it would be a step in the right direction if Canada, in the case of U.S.A., Australia or New Zealand, in the case of Japan, were to provide Assistant Military Attachés. They would serve the double purpose of assisting the British Military Attaché in his interpretation of matters affecting their particular Dominion, and of increasing Dominion knowledge of the military affairs of their next door neighbour.

After all, it would seem desirable that, having in view either future military co-operation with, or opposition to, these nations, the Dominion closest geographically should be also represented in a military sense at our Imperial diplomatic headquarters.

(d) *Interchange*.—In 1914, of the thirty-seven officers of the British Regular Forces serving temporarily in Canada twenty-seven were “on loan.” Now, the military situation in Canada has greatly changed in the last twelve years. At the earlier period we had but eight Canadian officers who had passed the Staff College; we now possess twenty-three Canadian officers with such qualifications. We formerly had only a few officers with war experience, and that of a rather limited nature gained in South Africa. We now have a very large number of officers in the Permanent Force and Non-Permanent Militia who have had recent and extensive experience in the Great War. The situation in Canada is, therefore, no longer such as to require the temporary loan of experienced officers from this country. It is thought that this situation applies to the other Dominions.



On the other hand, if the conditions which suggested a loan of experienced officers from this country have disappeared, a situation which points the way to extensive interchange, on an equal basis, of British and Dominion officers has now arisen : this is a distinctly healthier state of affairs.

Interchange between British and Dominion officers was commenced in a small way in 1910. The interruption in this arrangement, due to the late war, was not corrected until 1925, when Australia and Canada again undertook this measure of inter-Imperial military relationship. As yet, interchange is on a very small scale, on a basis of two Canadian and one Australian officers in England, and an equal number of British officers in those Dominions—all these on two year appointments. I am speaking with authority, however, when I say that Canada desires largely to increase the present basis, and I would suggest that a considerable extension of this arrangement should be encouraged in every possible manner.

The limiting factor as regards interchange, however, apart from questions of policy, lies in the comparatively small number of Permanent Force—or Regular—officers on Dominion establishments, and consequently, the inability of a Dominion either to provide or to absorb more than, let us say, a dozen officers on this basis. To obtain a quicker turn-over in ideas and mutual knowledge, even though of a less thorough nature, I make as my next point—attachments.

(e) *Attachments.*—As I have said, the number of officers doing interchange duty must remain very limited owing to the restricted military organization of the Dominions. But, where interchange for a period of one or more years is impossible, a short period of attachment may sometimes be quite readily arranged—and I suggest that from such attachments a great deal of good may result.

The value of short attachments, when properly carried out, lies in gaining general impressions rather than specific knowledge. But general impressions of the right kind are most important, for they have a decided influence on subsequent ideas and actions and, as such, we have urgent need to exchange them.

With Canada, at least, the distance is not so great that short period attachments are impossible. Our Militia training camps commence usually in June, terminating in August. In this country training does not terminate until the latter part of September. It would appear quite feasible for a dozen or more officers from this country to spend a month or so, early in the summer, attached to our training camps in Canada—the visit being returned by an equal number of Canadian officers during the September training in this country.

In Canada and, I believe, in the other Dominions, owing to scattered population and great distance, it is something more than a difficulty to concentrate for training even a properly constituted Brigade Group.



Tanks and dragon drawn artillery do not figure on Dominion establishments. On the other hand at Aldershot, for instance, experience in combined training at its best is available. To British officers, the Dominions, admittedly, have nothing of an advanced nature to offer as regards training, but such officers can obtain at least very valuable knowledge of Dominion military organization, its difficulties and possibilities. All this can only prove an Imperial military asset of immense value.

(f) *Inter-Regimental Liaison*.—I would carry this point a stage further and consider utilizing the relationship that exists between our non-permanent, or citizen force, units with the regiments to which they have the honour to be allied in this country. To explain this remark, I would perhaps call to mind that, in certain of the Dominions, it has been a matter of policy to encourage inter-regimental connections between the regular units of the Mother Country and the units of the Dominions—whether of regular or non-regular category. A glance at the Army List will show the extent to which Canada and New Zealand, in particular, have welcomed this connecting link. To my mind, this alliance between Dominion regiments and the regular units of this country is of the utmost importance. It is an expression of Imperial *esprit de corps* which brushes aside the barriers of distance. It is a real basis for the development of a common spiritual link connecting the Imperial Forces as a whole. I do not think too much can be done as regards its encouragement.

At the present time, contact between the allied units is generally limited to an occasional letter, the complimentary gift of some trophy or piece of mess plate, and the despatch of the Regimental Journal, if and when issued. With some allied units I know good work has also been done on certain social matters such as the emigration of ex-soldiers of the regiment to the Dominion concerned, and matters connected with their civil re-establishment. These are all good points of contact, but I suggest that considerable benefit yet remains to be extracted from these regimental affiliations.

As an example, on the grand scale, of inter-regimental contact, I would remind you of the presence of the Queen's Own Rifles of Toronto, as a unit, at the manoeuvres held here in 1910. The cost of this rather magnificent gesture in Imperial military co-operation was not, almost needless to say, borne by the Government. It was the personal expenditure of the officer at that time commanding the regiment, now Major-General Sir Henry Pellat. I do not, for a moment, dream of efforts on a like scale by our Governments to cement our inter-regimental liaison, but I do suggest that it is quite within the finances of our military departments of State to assist at least one officer of each allied regiment to spend, annually, a few weeks with the opposite number during the training season. From the Canadian point of view, I know that the

greatest benefit would accrue to our militia regiments in *esprit de corps*, in keenness and in training. I will further venture to say that equal advantages from this intercourse would not fail to benefit the home regiment and, in a still broader sense, our Imperial organization for war.

Perhaps I may be forgiven if I emphasize the importance to the Empire of encouraging in every possible way this keenness and resulting efficiency on the part of the non-permanent or citizen forces of the Dominions. But when I say that any contingent or expeditionary force from the Dominions will be composed, in an Imperial war of any magnitude, almost entirely of these Territorial Army type units, the request for the greatest possible consideration of their requirements may not seem amiss.

(g) *Schools and Courses*.—In a number of suggestions which I have put forward the underlying idea has been in the nature of decentralization, and I have inclined towards increasing the number of points where, in a military sense, we come into personal contact. I would make a strong exception, however, to this policy, when it comes to schools and courses of instruction, particularly in matters concerning higher command, staff duties and technique.

In 1909, at the Naval and Military Conference—when it was agreed that Dominions officers should attend the Staff Colleges at Camberley and Quetta—it was stated that this arrangement should apply until the Dominions had established Staff Colleges of their own. I have often wondered whether this ultimate arrangement, as then suggested, was hoped for or feared. Certainly I, personally, can imagine no worse blow to the practical assimilation of the Military Forces of the Empire than that each Dominion should have its own Staff College; and similarly, if not quite so important, that it should create its own Senior Officers' School, Artillery College, and so on. After all, these senior Colleges and Schools shape the minds of the subsequent directors of military affairs in Great Britain. If we in the Dominions are to march in step, we must absorb the same doctrine—the same learning.

I know that in Canada we have fought for that idea, and against setting up separate establishments for the study of higher command, military affairs and staff duties. In our Permanent Force, promotion examinations are the same as in the Regular Army in Great Britain and, except in so far as appropriate questions on peace organizations are substituted, the papers are set and corrected by the War Office so as to ensure uniformity. Promotion to lieutenant-colonel is dependent on the officer concerned passing through the Senior Officers' School here at Sheerness. General Staff appointments, in so far as available numbers permit, are reserved for those officers of our Permanent Force who have passed the Staff Colleges at Camberley or Quetta. If I dare urge a step, it is that the Imperial character of these and other courses should be emphasized over here, and that every measure to increase Dominion representation

should be encouraged. It is no exaggeration to say that on such action depends future Imperial military progress.

6. CONCLUSIONS.—I have attempted an outline of the progress during the last two decades in our Imperial military relationships. And based on these past experiences, I have put forward certain suggestions for consideration in connection with our future endeavours. There is but one object in any of these proposals—that is to advance the principle accepted at the Imperial Conference of 1907, "the assimilation of the Military Forces of the Empire" and that in its broadest sense. My own opinion, as I have indicated, is that, apart from routine methods such as similar text books, examinations and equipment, this can chiefly be attained by increased personal contact.

During the last war, the Empire proved its entity. Our Premiers sat in conference here, and the whole force of the Empire was directed as with a single mind. In these later days of re-adjustment to so-called peace, Imperial unity, at times, seems lacking. The attitude of Great Britain and the Dominions towards the same problem may differ.

When war again threatens, however, I feel certain that Imperial politics, as in the past, will operate on one straight forward line: there will be no divergence. And so our responsibility as soldiers stands clear: against that day to prepare the military machinery of the Empire towards its highest effectiveness. There is no mystery to the solution of this problem. The answer can be summed up in the word "co-operation." This demands similarity in organization, which, on paper at least, we have, and mutual knowledge and understanding, in both of which, I submit, we are deficient. Therefore, whatever we can now do to correct such shortcomings, within the political restrictions imposed on us, will pay Imperial dividends a thousand-fold when the Power of the Empire is again tested.

#### DISCUSSION.

##### THE NAVAL ASPECT.

CAPTAIN W. A. EGERTON, R.N.: I came to this lecture because the question of the development of closer relationship between the Naval Forces of the Empire is in its infancy and there is much to learn from those who preceded us in this great Imperial work. I have not been disappointed and have been immensely struck by the very thoughtful lecture to which we have listened.

It is clear that, in respect of co-ordination of effort, naval forces have a great advantage from the ease with which ships can be interchanged for a period of intercourse and training with other commands. It is a great pity that this is not possible with military units. Failing this, the next best thing is undoubtedly an interchange of individuals, the essential thing being to get real liaison through personal contact. Here again we, in the Navy, have an advantage; in the course of our travels, if we have any luck at all, we meet our comrades from the Dominions over the seas and reap the benefit of direct conversation which, as the lecturer mentioned, is worth many files of letters in arriving at a mutual understanding.

In regard to schools, I fully agree that the higher training must be centralised and quite naturally it must be centred here in England. The Imperial doctrine of war must be the same. If it is taught on a proper basis in a dozen different places the same doctrine should be evolved; still such a result can never be ensured without question, so the only safe thing is to maintain only one higher school of instruction for the whole Empire.

#### INTERCHANGE OF UNITS AND OFFICERS.

COLONEL DOBBIE: I should like to ask the lecturer a question on the subject that Captain Egerton has raised in regard to an interchange of units. I assume that the chief difficulty is that the permanent forces of most of the Dominions are maintained more or less on a cadre basis, so that entire units are not available to take the place of one of our units in overseas garrisons or anywhere else. Another question I want to ask is this. The principle of interchange has been accepted, and both staff officers and regimental officers are now interchanged. I would like to ask the lecturer which, in his opinion, is the more valuable, the interchange of staff officers or the interchange of regimental officers? If it is necessary to curtail one for the benefit of the other, which should it be?

#### ATTACHÉS AND DOMINION OFFICERS AT STAFF COLLEGES.

COLONEL SIR CHARLES YATE: I should like to say how I agree with the remarks the lecturer made on the subject of military attachés. I can see no reason why military attachés should not be appointed to the Dominions just as much as they are to foreign countries. Why should not Canada, Australia and the other Dominions interchange military attachés with us? Why should not a military attaché be appointed to the High Commissioners here in London, and why should not we have military attachés out in the Dominions as regular liaison officers? I was very glad indeed to hear this suggestion being made by the lecturer; I hope something may come of it. The question of the interchange of officers, even for one month, which the lecturer suggested, is very important; I hope that it will be taken into consideration. We hope that the period may be for longer than a month, but any interchange of officers for any given time will certainly be to the advantage both of ourselves and of the Dominions. With regard to the question of the Staff Colleges at Camberley and Quetta, I am not certain of the exact number of Dominion officers that are now admitted there. Is it not two?

COLONEL CRERAR: Two per Dominion at Camberley.

SIR CHARLES YATE: I would suggest then that we should certainly try and increase that number. We all know what difficulties there are in regard to accommodation both at Camberley and at Quetta, and the competition that exists to enter these Colleges. But building is going on and I think we ought to urge that the buildings should be increased so that a larger number of our Dominion officers might be admitted there.

#### LECTURER'S REPLY.

LIEUT.-COLONEL H. D. G. CRERAR, in reply: I think the question asked by Captain Egerton with regard to the interchange of units has been answered by Colonel Dobbie. I think only in the case of Canada is there a permanent force kept

up more or less capable of interchange, and even there our units are at very low strength. There are other reasons against such action apart from the question of units being available, which I will not enter into at this juncture. The other question which was asked was which was the better, the interchange of staff officers or regimental officers. I should say staff officers, every time. The reason is this, that the average regimental officer, unless he is rather fortunately placed, is carrying on practically the work that he has been doing in his own country, and he gets rather limited contact. He will gain a certain amount of knowledge within the regiment, but when he returns to his own country it is doubtful whether he will be in a position of sufficient scope to give wide effect from the knowledge he has gained. I think myself there can be no doubt about it that, as between the staff officer and the regimental officer, the interchange of the staff officer of higher rank is that which should be encouraged.

THE CHAIRMAN: Ladies and Gentlemen, it only remains for me to sum up. It is very nice to be at a lecture where you have not to hide a policy. We have nothing to hide in our policy as regards the Dominions. We want the very closest relations; we want to share brains, to share experience and share everything else. We want the Imperial Army organized as one complete whole; and therefore we want the training to be the same, the instruction to be the same, and everything else to be the same.

There is one point I desire to emphasize, and that is the value of personal contact. I have had the honour of fighting alongside Dominion troops; I have been most intimately connected with them in two wars. In my experience I have noticed that at first there always existed a sort of misunderstanding. We did not quite understand each other for want of personal contact; then, after we had been in the field together for a little while we found, of course, that we were all made of the same sort of stuff and that we were brothers in arms. I do think that personal contact is the most important thing in the soldiering world, and when we get personal contact we ensure the same doctrines.

It only remains for me to voice our thanks to the lecturer for his lecture, which is not only highly instructive but of great Imperial value.

The resolution of thanks was carried by acclamation.

CAPTAIN E. ALTHAM, R.N. (Editor, JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION), moved a vote of thanks to the Chairman, which was carried by acclamation.

The proceedings then terminated.

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## THE COMMITTEE OF IMPERIAL DEFENCE: ITS EVOLUTION AND PROSPECTS

By MAJOR-GENERAL SIR GEORGE ASTON, K.C.B.

A PERUSAL of works such as G. M. Trevelyan's new "History of England" cannot fail to remind us that the evolution of better systems of Government, like the adoption of most new ideas in this country, has at all times been slow and gradual. For the past thirty years or so, a period almost negligible in some evolutionary processes, we have been feeling our way towards a better organization in matters of defence. The present-day Committee of Imperial Defence can be traced back to a Defence Committee of the Cabinet set up by the late Lord Salisbury's Administration in about the year 1895. Shortcomings during the South African War caused us to reorganize the Committee in 1902, but it was not until May, 1904, that it was properly constituted, very much on its present basis, with the Prime Minister as Chairman, at the instance of the Esher "Triumvirate."

In order to appreciate the extent to which the Committee fills the gap in our defence organization, it is necessary first of all to recall something of the work that it has accomplished. Then we may examine the deficiencies which still exist in our system of controlling strategic operations in a war on the scale of that which faced us in 1914 and succeeding years.

My first experience which bears upon these points dates back to the year 1886, when, as a subaltern aged twenty-four, I was selected to serve in the Admiralty as a member of the "Foreign Intelligence Committee," an advisory body devised by the late Admiral Sir George Tryon as an adjunct to the "Military, Secret and Political Branch" of the Department of the Secretary, an office which the Admiral had recently filled. On official co-operation between the Services in those days the less said the better. The situation would in these days be considered almost fantastic. I have touched upon it in several books, and will, on this occasion, content myself with quoting, as an example, our policy affecting the Island of Ascension.

Lord Carnarvon's Royal Commission on the Defence of Commerce and of Coaling Stations (1879-1882), recommended that the defended harbours on the route to the Cape of Good Hope should be Sierra Leone



and St. Helena ; Ascension being abandoned, and the local Admiralty establishments moved to St. Helena. The Carnarvon report was not referred to the Admiralty for official concurrence. The War Office constructed defences at St. Helena, and when these were approaching completion the Admiralty refused to budge from Ascension. The question was referred to the Cabinet. The First Lord (Lord George Hamilton) came away from the meeting under the impression that the decision had been given in favour of the Admiralty. The Secretary of State for War (Mr. Stanhope) maintained a contrary opinion. No records were kept of Cabinet decisions, so the situation resulted in an *impasse*. Meanwhile, the Lords of the Admiralty took the law into their own hands and set about defending Ascension themselves, the cost falling upon the Naval Estimates. The guns were naval, but coast defence mountings and appurtenances were lacking. These latter fell within the province of the War Office, and, if asked for through the main channel of official correspondence (passing through the central registries of the offices concerned), a deadlock would doubtless have resulted. The difficulty was avoided in this manner. The Director of Naval Ordnance at the Admiralty, who worked under the Controller, was in the habit of communicating (semi-officially) by a direct channel with the Director of Artillery, a subordinate of the Inspector General of Works and Fortifications at the War Office. This matter of mountings was settled through that subterranean channel between these minor officials while the battle about policy, which should have governed the whole issue, was raging over their heads between the greater magnates to whom the country entrusted such matters.

My work at the Admiralty in the Naval Intelligence Department, which was evolved (largely at the instance of Lord Charles Beresford) out of the Foreign Intelligence Committee, included the control of four sections dealing respectively with (1) the defences and resources of British naval bases and harbours all over the world, based on the policy connected therewith ; (2) foreign guns, at sea and in coast defences, torpedoes, electric lights, submarine mines, armour and experiments bearing thereon ; (3) submarine cables and communications all over the world ; (4) British and foreign trade, defence and attack. This list of subjects sounds formidable. The control of office personnel dealing therewith was not. I dealt with them all myself with no understudy and without even clerical assistance. This is merely an example of the consideration given in those days to preparation for war, as distinguished from the conduct of peace administration. The task of promoting co-ordination of effort, not only of the fighting forces but of all the forces latent in the nation and Empire (man-power, economic and financial), seemed then a heartbreaking and hopeless one. No interest was taken in such matters by the statesmen in or out of office and no machinery existed whereby unity of purpose and economy of effort might be secured, while the Admiralty and War Office were at loggerheads with each

other, thinking more of their petty quarrels than of co-operation in the country's service.

This chaotic condition of affairs in Whitehall was, not unnaturally, reflected throughout the Services. Two examples came to my personal notice when doing staff work for the Naval Commander-in-Chief in the Mediterranean. At that time (1892-5) the fleet would have been left helpless for lack of ammunition after a serious action, while the magazines in Malta were choked up with the requirements of an army siege train. The defences of Malta itself, the principal naval base, included a fair-way buoy to mark the channel by which men-of-war could enter the harbour; a Brennan torpedo, controlled by wires from the shore; a boom laid by the Navy; and observation mines laid by the Army. Before the Brennan torpedo could be used, the fair-way buoy had to be removed; and if the mines had been exploded, they would have destroyed the moorings of the boom. Worse than all, there was no properly considered and co-ordinated plan for using our mobile sea and land forces in the event of war with any specified enemy.

So much for the old days. One could quote many more examples showing the perilous inefficiency of our organization for war due to the lack of any system of co-ordination, but at last, in 1903, the Esher "Triumvirate" (Lord Esher, Lord Sydenham and Sir John Fisher) was set up and evolved a real Committee of Imperial Defence. That organization was actually brought into being with the appointment of the permanent Secretariat in 1904.

The only permanent member of the Committee, then and now, was, and is, the Prime Minister. The other members<sup>1</sup> are summoned at his discretion, and they may or may not hold offices in official life. The originators of the scheme probably recognized that the success of all institutions and organization depends less upon their inherent excellence on paper than it does upon the personalities charged with their administration. Unfortunately, history does not encourage the hope that a succession of British Governments will be likely to take preparation for war seriously, in spite of the lessons of the Great War.<sup>2</sup> Questions of the moment in domestic affairs—matters which, in Press parlance, have "news value"—tend to absorb the whole attention of politicians. The statesman with forward vision in defence matters, content to prepare the ground and to sow seed from which others will reap the harvest, has not been a prominent figure in our public affairs. It was fortunate for the country that Mr. Balfour, the Prime Minister when the Committee of Imperial Defence passed through the critical periods of babyhood and

(<sup>1</sup> For *ex-officio* members of the Committee of Imperial Defence see "General Service Notes," p. 605.—ED.)

(<sup>2</sup> The recent decision by the present Government to encourage discussion of our defence policy as a whole, before the Estimates for the three fighting Services are taken in detail, should lead to a vast improvement, if the arrangement becomes permanent.

infancy, took a keen interest in its development, and devoted his fine intellectual qualities to the solution of its problems. Much lee-way had to be made up, but Mr. Balfour's premiership was marked by two outstanding features: (1) the settlement of the invasion controversy, which for centuries had been a bone of contention between the pundits of sea and land warfare, to the grave detriment of progress and economy in our defence policy; and (2) the serious tackling of our principal military problem of the day, the North-West Frontier of India.

When the Balfour Government went out in December, 1905, there was some anxiety amongst those who appreciated the increasing importance of the Committee of Imperial Defence, but by that time it was firmly rooted, and thenceforward successive governments, Liberal, Coalition, Labour or Conservative, were to find its services of the utmost value. From 1906 to 1914,<sup>1</sup> at least a section of the Liberal Cabinet had to give serious attention to the growing German menace, and this gave an impetus to the activities of the Committee. By the end of 1907, at their instance, the new General Staff at the War Office had drawn up principles of Empire Defence that were so sound that universal acceptance of them throughout the Empire was assured; moreover, a detailed and properly co-ordinated plan was worked out between the War Office and the Admiralty, probably for the first time in our history, for the employment of a British field army in Europe, should circumstances necessitate the adoption of that policy. Progress was slow but sure. It remained doubtful whether the urgently necessary preparatory work would be completed before we were confronted with the emergency, already looming upon the horizon, which might require co-ordination of all the moral and national forces of the Empire. The outstanding requirements seemed to be: a realization of the danger by statesmen holding the reins of Government; a plan for co-operation by all Departments of State; some method of ensuring, by national insurance or guarantee against war risks, the flow of food and merchandise across the seas in a war emergency; knowledge by Dominion Governments of our foreign policy and the condition of affairs in Europe. Out of this arose the need for uniformity in staff work, organization, training and equipment in all the sea and land forces of the Empire, so that the maximum value would be obtained from such of them as might be placed at the disposal of the authority controlling the fighting forces in a great war. On the subject of that authority there is more to be said later. Four out of those five anxieties were, in fact, allayed by 1913.

In 1909, I attended, as military adviser to the Transvaal Delegation, the Empire Defence Conference held in London. At a secret meeting of the Committee of Imperial Defence, Sir Edward Grey

<sup>1</sup> For details, see Mr. Churchill's "World Crisis" and Lord Grey's "Twenty-five Years."

explained the state of foreign affairs to the Empire Premiers. Mr. Asquith expounded the German menace at sea at a general meeting of the Conference. The War Office put forward proposals, which were generally accepted, for putting all the military forces of the Empire on a similar footing under the headings given above. The Admiralty put forward, too late for proper study and consideration, a scheme for co-operation in providing additional sea-power. Thenceforward steady progress was made in preparatory measures.

It fell to my lot, as head of the General Staff in South Africa, to initiate a system of monthly letters on technical military matters, carefully avoiding high policy, between representatives of the General Staff in all parts of the Empire, reporting how the expectations of the 1909 Conference were being fulfilled. The cordial support of Sir Douglas Haig, who went to India as Chief of the General Staff, assured the success of this system of correspondence.

The Secretariat of the Committee of Imperial Defence, on their part, were engaged amongst other work of widespread importance, on the compilation of a "War Book" containing detailed instructions to every department of State for immediate action to be taken in the event of war. That "Book" was put to the great test of 1914, and ensured the smooth and immediate working of Government measures, dealing with foreseen and comprehensive requirements for action in the war, to an extent unequalled in the history of our own or of any other country.

I have now described how four out of five requirements of our defence system were met through the agency of the Committee of Imperial Defence during the administration of Mr. Balfour, Sir Henry Campbell-Bannerman and Mr. Asquith. There remains the fifth—some form of insurance, guarantee, or what not, to ensure that our merchant shipping would keep the seas and not be laid up, owing to fear of loss, in time of war. If one factor more than another dominates the success of our complicated economic system, it is the cost of sea transport. If that cost were to be rendered prohibitive by high premiums against war risks, ships would not run and our economic system would collapse. Without Government control the amount of premium would be determined by underwriters unacquainted with the naval situation upon which the risk depended, and experience during the Manchurian War of 1904-5 proved that the result would be panic rates, bearing no relation to true risk. For many years these arguments had been urged upon the Government, both officially and in the Press. Definite schemes had been turned down by the Treasury on the plea that shippers, wholesale merchants, retailers, or some other interested folk would profit from them financially.

In 1914, and only a few weeks before war broke out, however, the Committee of Imperial Defence initiated a scheme for marine insurance

on the lines of issue, through underwriters, of Government insurance policies with low premiums based upon anticipated risk. These premiums were to be based upon knowledge of the naval situation, possessed by the Admiralty, and not upon panics due to ignorance. There was talk of again raising the interminable old arguments about individual or class profit, but wiser counsels prevailed. The Admiralty concurred. The Committee of Imperial Defence put the scheme into operation, and, when hostilities came, the movements of our merchant shipping were not greatly affected, except to or from enemy ports. In the nick of time the situation had been saved. During the years 1913-14 I was in close touch with the work of the Committee and I found one point of weakness in its methods. I left the Admiralty on 5th June, 1914, and here is an extract from my diary of that day :—

“As regards C.I.D. work. Fear it is getting on the wrong lines in some ways. A debating society for politicians and not a business arrangement. Too many irresponsible members. As regards naval and military co-operation, what is now wanted is a joint Committee of Admiralty and War Office *responsible* officers, only calling in the C.I.D. when they don't agree.”

Years later, when the Great War was over, I was free of official shackles and in a position to put forward in the Press suggestions for dealing with this weakness. I take some quotations at random : *29th January, 1920* : “Why not a sub-committee of the Committee of Imperial Defence, on which the Chiefs of the sea, land and air staffs should sit ?” *6th April, 1920* : “What is wanted at present is for the Committee to meet, and to set problems to some other body or sub-committee of sea, land and air staff officers to work out in detail. Only upon such work is it possible to frame reasonable estimates for our future sea, land and air forces.” I skip similar extracts for the next three years, and come to this : “What was needed (in 1914) was an expert sub-committee, including the Chief of the General Staff at the War Office, First Sea Lord of the Admiralty, or their representatives, and such other officers as they might call to their councils. With the help of such an organization most controversial matters affecting Navy and Army could have been settled out of court, without taking up the valuable time of statesmen charged with governing the country.”

Having so written, on the dates mentioned, it is incumbent upon me to bless the new development that has come to pass, exactly upon those lines, in the Committee of Imperial Defence ; a development which, as we were told by Lord Balfour recently in the House of Lords, is to be given definite shape by Royal Warrant, the system having been fixed tentatively for some little time. I have always believed in the importance of working out hypothetical plans of campaign, even if in a purely academic fashion, in order to bring vague theorists and sketchy strategists to earth when faced with realities ; working out definite



plans is the best way to ascertain deficiencies in information upon which plans must be based. It also indicates clearly the extent to which armaments keep pace with policy, and *vice versâ*. The establishment of a Committee of Chiefs of Staff has now provided us with machinery for working out such plans, and for proof, through the main Committee, of the extent to which the demands of Admiralty, War Office, or Air Ministry would draw upon the economic resources upon which the prosperity in peace and existence in war of the civil population must depend. I cannot understand the argument of those who wish to place a "combined General Staff" between the responsible Chiefs of Staff and the executive authority, whether it be the Cabinet or a Ministry of Defence (for which, incidentally, I see no need). I should, therefore, be sorry to see a "combined General Staff" superseding the Committee of Chiefs of Staff vested with joint responsibility.

I can foresee that some readers of these lines are likely to ask "What about war? Should not everything to do with the organization for control of the fighting forces in peace be based upon their control in war?" The first point to be made in reply to these questions is that the Committee of Imperial Defence ceased to function in the Great War.<sup>1</sup> So we cannot tell to what extent it would have met our needs. My personal view is that, as then constituted, it would not, for reasons given in my diary and quoted above. The Committee, moreover, is an advisory not an executive body. The question of control in war is not one to take up lightheartedly at the conclusion of a short article. It needs a long essay in itself. I would, however, put in a plea for distinction between general control in war and control over operations of war. On this head Lord Grey of Fallodon writes in "Twenty-five Years," that "The part of a civilian government is to see that the highest professional posts in the Admiralty and War Office, and the chief commands in the Army and Navy, are filled by soldiers and sailors best qualified for them; and that these are supported in the use of armed forces."

The Committee of Chiefs of Staff, if they had been engaged upon drawing up hypothetical war plans in time of peace, would, in my opinion, be an ideal body for the control of those plans in subsequent stages, when put into force in time of war, subject, where the civil population and allied forces are seriously concerned, to higher authority. They would, of course, require a chairman. If the present peace practice is followed, the chairman would be the Prime Minister, who would also preside over the higher authority, presumably a small War Cabinet. This, I admit, is a very sketchy suggestion on a subject of so great importance, and it needs more lengthy elucidation. The question arises, for instance, whether a super-man would be required to do the double work, either

<sup>1</sup> It has been claimed that the "War Council" and various other controlling bodies were evolved out of the Committee of Imperial Defence.



in peace or in war. Whether a substitute or under-study is required for both occasions, and, if so, who that substitute should be in time of peace and in time of war respectively.

Here we are confronted with the old and insoluble question of personality. However well a system may appear on paper, how is it possible to ensure that the right man will be in the right place at the time when he is most wanted? Would the best chairman for an advisory body employed upon peace preparation be also the best man for an executive office requiring rapid decisions and fearless acceptance of responsibility in the conduct of war operations? The most fatal error, in my opinion, would be to entrust such an office to an "ordinary politician" of the type described by the late Lord Randolph Churchill before the Hartington Royal Commission of 1888-1900, in these words:

"To the ordinary politician, under our political system, administrative miscarriage brings little or no evil consequences. His fate, if unfortunate or unskilful, is, in the majority of cases, to be transferred to some other office, to a Foreign Embassy, to a Colonial Governorship, or, at the worst, to the House of Lords. Neither pecuniary nor social loss necessarily or ordinarily follows the unskilful and possibly disastrous administration of our Ministers for the Army and Navy."

We have had a succession of statesmen who, in time of peace, have stimulated the activities of the Committee of Imperial Defence in preparation for war. The executive control of actual war operations requires an intimate knowledge of war (as distinguished from purely military) history, wisdom, judgment, experience and the quality of rapid decision. I have in my life-time known three men possessing those qualifications. Two were Statesmen the other an Admiral.

Finally, I would plead for progress by evolution, rather than by revolutionary methods, in improving our defence organization.

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#### GENERAL SERVICE NOTES.

A new feature in this quarter's JOURNAL is the section devoted to General Service Notes (see p. 605). In these Notes will be found allusion to matters of importance relating to Imperial Defence generally and to subjects which affect all three Services.

As an example, this quarter's Notes contain a summary of the recent Government pronouncements on the Committee of Imperial Defence, the Committee of Chiefs of Staff, objections to a Minister of Defence and the decision to establish an Imperial Defence College.—*Ed.*

## THE RED GENERAL STAFF ACADEMY OF SOVIET RUSSIA

### I. INTRODUCTION.

ALTHOUGH the Bolsheviks had destroyed the organization of the old Russian Army and issued new military regulations, they determined to retain the Imperial General Staff Academy intact, hoping to utilize it in the future. They, therefore, gave every consideration to the Academy in spite of the hesitating attitude adopted by the professors and students towards Soviet authority.

From the outset they intended to establish the Academy in the safest possible place. So, in 1918, when Petrograd stood in danger of capture, the Academy was removed from the capital and finally housed in Kazan. But the choice of Kazan turned out unfortunate, for very shortly, so that the town was threatened by the Czech legions. Vatsetis, then commanding the Red Army in Kazan, decided to strengthen the command of his army by embodying therein the instructors and students of the Academy. His proposal was, however, rejected by the majority of both instructors and students. He therefore proclaimed that the General Staff Academy was to be dissolved. A few days later Kazan was occupied by the Czechs. The majority of the personnel of the Academy joined the anti-Bolshevik forces and the valuable library of the Academy went with them.<sup>1</sup>

The Soviet Military Authorities immediately set about organizing a new Red General Staff Academy. This was founded by decree on 8th December, 1918. Ex-Lieutenant-General Klimovich, being at that moment one of the local military Commissaries, was appointed Commandant of the new Academy. A staff of instructors was constituted partly out of those instructors of the former Academy who had proved loyal to the Bolsheviks, but chiefly from outside General Staff Officers and party workers, the latter being employed as lecturers in political and social science. The students were found from among commanders of Red fighting units, including both ex-officers of the Imperial Army and workmen who had begun their military career during the revolutionary wars. Study began without further delay.

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<sup>1</sup>This library was transported to Vladivostok, but when this place was recaptured by the Bolsheviks, all the books were brought back to Moscow and handed back to the Red Academy.

*The General Staff Academy from 1918-1921.*

During this period, the work of the Academy produced no positive military results. From the point of view of training the students it was a waste of time.

At first there was felt a great shortage of General Staff Officers in the Red Army, so it was decided to organize shortened "war-time" courses, in order that units should be reinforced at intervals by officers—even though they might not be thoroughly trained—who might occupy Staff appointments in higher formations. These courses, however, were never organized and ordinary "peace-time" lectures continued to be delivered. The students acquired only a fragmentary knowledge which they were unable to put into practice, and so proved of little value. In addition, the studies were badly organized. Misunderstandings took place between professors and the revolutionary students. The acute economic crisis and the famine raging in Russia made normal conditions of work impossible. There was a shortage of books. The attendance at lectures was very small. According to official information, 95 per cent. of the students were compelled to take outside work, in order that they and their families might exist. Numbers were also employed in such tasks as conveying food from the provinces, obtaining fuel for the Academy, clearing the snow from the streets and the like.

*Re-organization of the General Staff Academy.*

In 1921-1922 fundamental reforms were introduced. The instructors who had, from the start, based their work on the model of the Imperial Academy did everything to raise the standard of the Red Academy to that of its predecessor. At the same time, the corps of General Staff Officers was disbanded, and the General Staff Academy was re-named the "Military Academy of the Workmen-Peasants' Red Army."

At this time a section of younger instructors, known as "The Young Turks," urged the re-organization of the Academy on the pattern of the French *Ecole Supérieure de Guerre*. This was not a new idea, for it had been agitated in 1910 and 1912. The plan was put into practice. The objects, the organization, the programme of studies and the training methods of the Academy were now definitely formulated, and special regulations relating to the life of the students were drawn up. Their studies were to be based exclusively on the principles of modern warfare.

## II. THE ORGANIZATION OF THE RED MILITARY ACADEMY.

From the educational and administrative point of view the Academy is subordinate to the Chief of the General Staff, through the Chief Inspector of the Army and the Administration of Military Schools.

The Academy in addition to being a purely military school for the General Staff includes the following branches: the Supply Section, Western Section, Courses for Senior Commanders and the Higher Political Courses.

*The aims of the Military Academy.*

The object of the Military Academy was stated in a special decree that runs as follows: "The General Staff Academy should not limit its activities to a thorough military training of students, but should strive to give them a good general education, enabling them, upon completion of the course, not only to perform staff duties and occupy posts in fighting units, but also to be versed in political, social and international questions."

The Decree (No. 1968), of 1921, is yet more explicit; it states: "The object of the Military Academy is to train highly efficient men for the Red Army, who can carry out staff duties and command Red Army units in war or train them in peace-time; to secure uniformity in military and political views, thus facilitating the introduction of unified command in the Red Army. The Military Academy, being the educational centre of the Red Army, should watch current events and study (from the scientific point of view) the military operations which took place during the Great War and the Civil Wars, so that in future wars the Red Army may take advantage of the experience thus gained."

It may be seen that this organization is based on that of the French *Ecole Supérieure de Guerre*. Its activities are not limited to the training of General Staff Officers; the students undergo a course of higher military instruction, enabling them to occupy posts as Senior Commanders. Accordingly, many students of the Academy spend a great part of their military service with fighting units.

The educational work of the Academy is performed by an Educational Council.

The course, not including the preparatory course, lasts three years: 1st year, junior course; 2nd year, intermediate course; 3rd year, senior course.

According to establishment there should be one hundred students in each year; but the actual figures vary.

### III. CONDITIONS OF ADMISSION OF STUDENTS.

The conditions of admission to a course of study at the Red Military Academy have been laid down as follows: (a) Two years in command of troops; (b) Physical fitness; (c) Good references from the respective commanders of Military Regions; (d) References from the Communist Party or trade unions; (e) Recommendation from a special Mandatory

Commission attached to the Military Academy. An examination has then to be passed, in accordance with the regulations, which resembles that normal in other countries.

During the earlier existence of the Red Academy the actual state of affairs did not correspond to the above plan, because the Bolsheviks did everything to prevent former officers from entering the Academy, knowing that their military and general education was infinitely higher than that of the Red Commanders; the latter were thus unable to compete with the former in examinations. It was only in 1923 that examinations became of importance. Yet, even now, the admission of students to the Academy depends chiefly on the decision of the so-called "Mandatory Commission" which judges the students from the point of view of their political reliability. Workmen and peasants, especially those belonging to the Bolshevik Party, thus enjoyed great privileges when entering the Academy. During the first few years a considerable number of vacancies were reserved for them and they were received without passing the necessary examinations. A much lower standard of knowledge was expected of them than of the former officers and non-party commanders. The results were far from satisfactory. The Party students possessing a very low standard of education made slow progress, while the lectures had to be delivered in a very popular form.

This state of affairs, however, could not continue. During the last few years attempts have been made to change the system, and special preparatory courses have been established in order to secure the necessary number of students reliable from the political point of view for the Academy. Nevertheless, great care is still exercised in admitting students, each case being examined so as to exclude any "unreliable" candidate. The results of examinations, even at the present moment, are of secondary importance, and admission may be refused to those who have passed all the examinations. This policy arouses much indignation among candidates and frequent protests are made to the Commission, which, however, only on rare occasions pays any attention thereto.

#### *Preparatory Courses.*

In 1923, preparatory courses lasting one year were established, in order to train Communist Commanders who, owing to a low educational standard, might be unable to pass their examinations. At these courses students are trained in all subjects to be included in the entrance examination. So far, however, these courses have not produced any positive results, chiefly owing to the very low standard of intelligence of the students. After the first examination, only twenty-five students out of one hundred were admitted to the Academy; twenty-five students were put back for a second year, while the remaining fifty had to be sent back to their units. The introduction of courses, lasting two years instead of one year, is now contemplated.

## IV. PROGRAMME OF TRAINING.

*School Year.*

The year may be divided into the Summer and the Winter terms. The latter begins on October 2nd and ends on May 30th ; it lasts thirty weeks or 1,302 hours. The day consists of eight hours, four hours being devoted to lectures and four to practical exercises. During the latter, on three days a week the students are trained in tactics, while the other days are devoted to various subjects. The Summer term begins on June 1st and ends on August 11th, lasting eleven weeks. The vacations cover a period of six weeks, beginning on August 12th : the remaining part of the year is devoted to examinations.

*Subjects Studied at the Academy.*

Similar subjects are grouped together, under a special instructor who is styled a "Senior Instructor" : each controls a number of assistants.

There are eight groups : strategy ; tactics ; history of military science ; organization of the army ; geography and military statistics ; general staff duties ; social and economic sciences ; languages.

"Tactics" of armoured troops are included in the course of infantry tactics, and chemical warfare tactics in the course of artillery tactics. The most important lectures are given in the second year, while only seventy-six hours of lectures (on military methods, military psychology and electrification) are delivered during the final year.

One of the characteristics of the programme is that strategy is included in the first year, while lectures on general tactics are given entirely in the second year. The grouping of subjects is also rather peculiar ; thus army supplies, strategical preparations for "signalling," etc., are included in the "strategy" group ; while the "tactics" group includes : methods adopted by the medical service, topography, drawing up of plans, etc.

The exact difference between the number of hours indicated in the programme and the actual number of lectures delivered has not been ascertained.

*Military Instruction.*

The greatest attention is devoted to purely military training while the study of staff duties is considered of secondary importance. This arises out of the tendency towards the specialization of General Staff Officers, who also go through the Supply Section. This Section is not limited to training commissariat officers in that sense of the word, its object being to prepare efficient General Staff Supply and Administrative Officers.



In spite of all French influence many traditions of the old Tsarist Academy still survive in this new creation. Thus great attention is paid to the theoretical studies of military history and strategy, while the value of the practical side of military training is under-rated.

On the tactical side the object of each course is as follows:—

*First Year.*—To acquaint the students with various weapons, to train them in the tactics of different arms of the service, and in commanding separate detachments within an infantry regiment.

*Intermediate Year.*—To train the students in commanding a division within a corps.

*Final Year.*—To train the students in commanding higher formations from a corps upwards.

In addition, during the final year an attempt is made to prepare the students for independent educational work by means of special studies relating to strategy and military history. These are based on the experiences of the Great War and of the Soviet wars; but they are deeply influenced by prominent West European writers on military subjects.

Tactics are taught by training the students in carrying out offensive operations and particularly a counter-attack.

Defensive operations are regarded as manœuvre warfare.

There is a special branch of tactics taught by means of lectures on minor operations, the organization of armed risings and their suppression.

In cavalry tactics, special attention is paid to the strategic operations of large cavalry forces.

#### *Tactical Tasks, Exercises and War Games.*

In each branch of tactics the students are given only one task; their total number is therefore limited.

According to official information no exercises are held during the winter term, but war games are organized instead. These in some cases last a considerable time; so, for example, last year a war game was organized for the students of the senior course, which went on for nine days without interruption.

#### *Topography and Other Military Subjects.*

The theoretical course in topography is very short, whereas the practical work is very extensive. Although the students attain some

degree of proficiency in this subject, little time is thus left for practical work in tactics.

Such subjects as artillery, signalling and aviation are considered of great importance. The Academy is well equipped with laboratories and workshops, the signalling and aviation workshops being the best organized.

*The Object and Extent of Social and Political Work.*

Many lectures on social-political subjects are delivered ; the object of these is as follows :—

- (1) To raise the general standard of education among the students ;
- (2) To alter completely the social point of view of those students who were formerly officers of the Tsarist Army, and to convert them into Communists.

All lectures on political and social subjects are delivered in accordance with the doctrines of Karl Marx and Lenin, and deal with the following subjects : Materialism in history ; history of the Labour movement ; history of Russian social democracy prior to 1917 ; history of the Communist Party ; constitution of U.S.S.R. ; economic policy of U.S.S.R. ; imperialism ; political economy ; electrification.

Students write papers on all these subjects and during their final year prepare a longer essay thereon.

*Foreign Languages.*

The knowledge of one foreign language is compulsory. Before passing out every student must know one of the following languages : French ; English ; Italian ; Polish ; Rumanian ; German.

For this study groups are formed, each consisting of four to six students, according to their degree of knowledge, and irrespective of all seniority.

*Examinations and Tests.*

During the year, tests are organized, while at the end of the year examinations take place. Students who fail at the examinations attend the same course for a second year or are dismissed. In 1923-24, about 10 per cent. of students were thus dismissed. A special reduction, due to bad conduct, was carried out in 1921-22, when about 50 per cent. of the total students were dismissed.

In order to obtain the diploma of the Academy each student has to submit four papers ; one of these is the economic essay already named.

*Summer Exercises.*

During the summer term, special exercises are organized.

- (1) Tactical tasks within the compass of a division or corps, or commanding military units during manœuvres ;
- (2) Taking surveys of actual country ;
- (3) Training with various arms of the service ;
- (4) Visits to various branches of military industry and fortified districts.

In theory these exercises should be numerous and arranged on a large scale ; in reality their number is limited and their organization leaves much to be desired. This proves the weakest point in the training of the future Red General Staff. Official figures show that tactical tours have been reduced to a minimum, though better results were obtained since 1923.

During the summer term, topographical work is considered of the greatest importance, excepting in the final year. Students of the latter standing take part in tactical tours and acquaint themselves with military industry ; they frequently visit Leningrad to study factories employed in military industry and the Baltic Fleet. In 1924, tactical signalling exercises took place in the vicinity of Moscow with the assistance of several air squadrons.

Remarks made in the military press indicate the inadequate organization of tactical tours and the bad effect which is thereby produced on training in general.

#### V. CHARACTERISTICS OF THE LECTURERS.

*Lecturers on Military Subjects.*

The lecturers are divided into two groups, as they deal with (a) military subjects, and (b) political matters.

The first group includes the best military brains of the Red Army, another proof of the great interest with which the Academy is regarded by higher authority. Out of the original staff only a few prominent men remain, but it includes some able younger General Staff officers and some representatives of the Higher Command.

These men, having evolved a new military doctrine based to a great extent on the old theories practised in the Tsarist Army, have become the educational leaders of the Red Army. Some of the instructors, however, are badly handicapped by having no teaching experience and by not having received any higher instruction. Numerous differences on educational matters among the instructors have yet to be settled. In spite of it all, however, the present educational system has been formulated by these men, without any outside assistance.

*Political Instructors.*

Political instructors for the Academy are selected with even greater care. The Communist Party details its most prominent speakers to deliver lectures at the Academy. A few lectures have even been delivered by Lenin, Trotsky and others, who have thus gained popularity among the students.

## VI. CHARACTERISTICS OF STUDENTS.

As the Soviet Government desires to have at its disposal a General Staff and a corps of Red Army Commanders that shall be loyal and fully reliable from the political standpoint, a large proportion of students are chosen from workmen and peasants. The result is that the students differ greatly among themselves as to intelligence, culture and general education. Some students will be of University education, while others can hardly read or write. By the side of officers of the old Imperial Army there may be men who have never been in the Army at all. A bad effect on the educational work of the Academy is thus produced. But the Government, though anxious to improve matters, has decided to put up with such disadvantages rather than to run the risk of selecting students from among elements termed "politically unreliable."

According to statistics, these efforts have proved successful. Since 1923, officers have ceased to form the majority of the students at the Academy.

On the whole, the educational standard of the officers is infinitely higher than that of the proletarian classes. There are, however, cases of men with very inferior education who have shown good progress after completion of the Academy curriculum.

It is expected that in future the distinction between the two categories will tend to disappear.

Students also differ as to their willingness to work and the interest they take in their studies. The majority, however, are very industrious, and even those who have to work very hard at the compulsory subjects, carry out extra work on military scientific committees, and take an active part in editing or writing articles for military periodicals.

According to the latest annual report, about 30 per cent. of students belong to the minor nationalities of Russia, the percentage being:—

White Russians 6.5 per cent.; Letts 5.8 per cent.; Jews 4.8 per cent.; Ukrainians 8.5 per cent.; Azirbaijans 1.2 per cent.; Armenians and Georgians 1.2 per cent.; Poles 2.6 per cent.; others 1.2 per cent.

*Appointments and Grades.*

The systematic allotment of students to Army appointments has not yet been regulated. This is carried out in a somewhat casual fashion, and depends on the actual requirements and the shortage of General

Staff Officers in the Red Army. The list of commands to which students may be appointed is very extensive; it begins with a corps and ends with a company. Prior to receiving some definite appointment, students generally attend a short course at the Air Academy. The majority have to act for several months as company or battalion commanders, in order to study the question of military training and the requirements of military units.

The following statistical data are of interest :—

GENERAL EDUCATION OF THE STUDENTS OF THE ACADEMY.

| Recruits.          |    | Students with<br>university<br>education. | % of students<br>who have either<br>begun or completed<br>a secondary course<br>of education. | % of students<br>with elementary<br>education. |
|--------------------|----|---|---|--|
| I. Cat.—1918 ..    | .. | 5   | 70  | 25   |
| II. Cat.—1919 ..   | .. | 20  | 64  | 16   |
| III. Cat.—1920 ..  | .. | 5   | 65  | 30   |
| IV. Cat.—1921 ..   | .. | 9   | 55  | 36   |
| V. Cat.—1922 ..    | .. | 2   | 70  | 28   |
| VI. Cat.—1923 ..   | .. | 1   | 51  | 48   |
| VII. Cat.—1924 ..  | .. |   | No information.   |  |
| VIII. Cat.—1925 .. | .. | 1   | 40  | 59   |

MILITARY TRAINING.

| Recruits.          |    | % of officers<br>of pre-war<br>military<br>schools. | % of officers<br>of war-time<br>schools. | % of officers<br>of Soviet<br>courses for<br>commanders. | No<br>military<br>training. |
|--------------------|----|---|--|--|-----------------------------|
| I. Cat.—1918 ..    |    |   | 45                                       | 43   | 12                          |
| II. Cat.—1919 ..   | 10 |   | 72                                       | 15   | 3                           |
| III. Cat.—1920 ..  | —  |   | 66                                       | 26   | 8                           |
| IV. Cat.—1921 ..   | —  |   | 65                                       | 30   | 5                           |
| V. Cat.—1922 ..    | —  |   | 47                                       | 25   | 28                          |
| VI. Cat.—1923 ..   | —  |   | 37                                       | 43   | 20                          |
| VII. Cat.—1924 ..  |    |   | No information.                          |  |                             |
| VIII. Cat.—1925 .. | —  |   | —  | 58   | 42                          |

POLITICAL PARTY.

| Recruits.          |       | % of<br>Communists. |  | % of<br>Candidates to<br>Communist<br>Party | % of<br>non-Party<br>members. |
|--------------------|-------|---------------------|--|---|-------------------------------|
| I. Cat.—1918 ..    | .. .. | 60                  |  | 40  | —                             |
| II. Cat.—1919 ..   | .. .. | 70                  |  | 14  | 16                            |
| III. Cat.—1920 ..  | .. .. | 91                  |  | —   | 9                             |
| IV. Cat.—1921 ..   | .. .. | 75                  |  | 18  | 7                             |
| V. Cat.—1922 ..    | .. .. | 83                  |  | —   | 17                            |
| VI. Cat.—1923 ..   | .. .. | 81                  |  | —   | 19                            |
| VII. Cat.—1924 ..  | .. .. | 71                  |  | —   | 29                            |
| VIII. Cat.—1925 .. | .. .. | 84                  |  | —   | 16                            |

## SOCIAL POSITION.

| <i>Recruits.</i>   | <i>% of<br/>workmen.</i> | <i>% of<br/>peasants.</i> | <i>% of<br/>sons of<br/>workmen.</i> | <i>% of<br/>sons of<br/>peasants.</i> | <i>Other<br/>classes.</i> |
|--------------------|--------------------------|---------------------------|--------------------------------------|---------------------------------------|---------------------------|
| I. Cat.—1918 ..    | 8.9                      | 1                         | 2                                    | 19.8                                  | 65.4                      |
| II. Cat.—1919 ..   | 17                       | 8.7                       | 4.7                                  | 20.2                                  | 46.6                      |
| III. Cat.—1920 ..  | 15.2                     | 11.9                      | 3.4                                  | 27.1                                  | 42.4                      |
| IV. Cat.—1921 ..   | 12.7                     | 5.9                       | 8.5                                  | 20.3                                  | 52.6                      |
| V. Cat.—1922 ..    | 16.1                     | 4.6                       | 6.9                                  | 20.8                                  | 51.6                      |
| VI. Cat.—1923 ..   | 22.7                     | 8.2                       | 7.2                                  | 10.3                                  | 51.6                      |
| VII. Cat.—1924 ..  | 33.5                     | 12.9                      | 7.9                                  | 17.9                                  | 27.3                      |
| VIII. Cat.—1925 .. | 32                       | 16                        | 22                                   |                                       | 30                        |

## VII. EDUCATIONAL WORK OF THE ACADEMY: THE MILITARY SCIENTIFIC SOCIETY.

The Academy is not only the highest military school of Soviet Russia, but is also the scientific centre of the Red Army.

The first stage of these scientific military tasks was the study of the work of the most prominent European writers on the Great War, and the investigation of the experience gained during the Bolshevik wars.

The new ideas thus acquired were adapted to Soviet Russia, and a series of important works were issued. Standard works and reports on military history and strategy were also written. In addition, many works by Schlieffen, Ludendorff, Kuhl and others were translated into Russian. It is difficult, however, to judge these works from the same angle as our own. In most cases the books were merely based on foreign works. Yet it must be admitted that the work of the instructors of the Academy has been colossal. They met with many obstacles, the most important being that they had to study and teach new methods of fighting, which they had never witnessed themselves. At the same time they possessed very few foreign modern books and practically no Russian books on these subjects. The books were published in a hurry, as the Academy possessed hardly any educational manuals. The work, moreover, was carried out under very hard economic and moral conditions. All this explains many defects, but it may be stated that the publications appearing during the last two years are of much better quality.

*The "Art of War" Society.*

This plays an important part in the scientific life of the Academy. The Society makes great efforts to promote self-education among students, and is active in much scientific and publishing work. It also maintains a periodical of its own, which is well edited and contains good reviews and translations. It is now engaged in sorting out the military archives



of the Civil and Polish-Bolshevik wars. The latter work is virtually completed and the history of the above wars is being published.

#### VIII. ORIENTAL SECTION OF THE MILITARY ACADEMY.

In one of his decrees, Trotsky explained the establishment of the Oriental Section as follows :—

“As our Republic borders upon a considerable number of countries with a Musalman population (Khiva, Bukhara, Persia, Turkey and others) and the Red Army is stationed in the centre of Turkistan, there is a great need for orientalists, i.e., men who are familiar with Oriental languages and the customs of the Eastern peoples. For this reason, a special Oriental section will be opened at the Military Academy on 1st January, 1920.”

The object of the Oriental section was as follows :—

- (1) To train General Staff Officers for service in the Near, Middle and Far East ;
- (2) To train officers for military diplomatic service ;
- (3) To train high officials of the Commissariat for Foreign Affairs for diplomatic service in the East.

In other words, the Soviet Government required the Oriental Section in order to exercise its influence in Eastern countries, from both military and political points of view, by means of specially trained emissaries.

The Oriental Section is chiefly composed of those who have completed a course at the Military Academy and of higher officials of the Commissariat for Foreign Affairs. The duration of this course covers two years and includes the study of the following subjects divided into groups on the same lines as for military study.

| <i>Groups.</i>                             | <i>Subjects.</i>   |
|--|--|
| Oriental languages ..                      | Turkish, Arabic, Persian, Urdu, Japanese, Chinese. <sup>1</sup>  |
| Occidental languages ..                    | French and English.  |
| Sciences connected with Foreign countries. | Military geography, history, economics, ecclesiastical law, constitutional law.  |
| Social-political sciences.                 | Political history of Russia and Western Europe, political economy, materialism in history, economic policy of the U.S.S.R. |
| Legal sciences .. ..                       | International law, consular law, commercial law, civil law, constitutional law and criminal law.                           |
| Military sciences .. ..                    | A short course on military sciences (for officials of the Commissariat for Foreign Affairs).                               |

<sup>1</sup>One of these languages is compulsory.

On completion of the course, and after passing the necessary examinations, one year's leave is granted in order that the successful students may visit the countries, the conditions and the language of which they studied at the Academy.

According to information received, it can be asserted that the educational standard in the Oriental Section is very high. The teaching personnel includes some men of real eminence, who have brought out publications of value.

#### IX. SUPPLY SECTION OF THE ACADEMY.

The former military-economic Academy was recently dissolved, and some of its branches were absorbed into higher educational establishments. So the present Supply Section came to be formed at the Military Academy. This section, in accordance with official orders, prepares thoroughly trained "Chief Supply Officers" for higher military formations, and others who occupy the posts of Commissaries, Administrative Officers, etc. The admission of students to the Supply Section is carried out on the same principle as the admission of students to the Academy. A three-year course has been established. The fact that supply experts are specially trained, and included in the Corps of General Staff Officers, clearly shows the limited scale on which students of the Academy proper are trained in staff duties.

#### X. SUPPLEMENTARY COURSES FOR SENIOR COMMANDERS.

The aim of these courses is to educate students for the command of higher formations, also those post-revolution senior commanders who received either a minimum military training or none at all. Only members of the Communist Party are admitted to the courses. Originally the students were chiefly composed of corps and divisional commanders; at the present time, however, the "Red Marshals" are all more or less trained, so the majority of students at the supplementary courses are brigade commanders.

In 1924 there were ninety-three students at the courses, thirteen of whom were divisional commanders and eighty brigade commanders.

The course consists of thirty weeks and its curriculum includes military subjects only. Social-political subjects are excluded in view of the short period of training. The general standard of education has proved to be so low that it has been decided to suspend papers on strategic and historical subjects, as this work produced no results whatsoever.

Great attention is paid to tactics and to the practical performance of tactical tasks. The hours for lectures, therefore, have been considerably reduced, now constituting only a quarter of the total hours allotted to

training. Military subjects such as strategy, staff duties and military history are studied on a very limited scale.

These supplementary courses are a temporary expedient and will be discontinued upon completion of this training by all senior commanders.

#### XI. THE HIGHER POLITICAL COURSES.

The object of this course is to extend the political knowledge of the Army Political Personnel and to afford them such military training as will enable them to occupy administrative or other posts, not requiring thorough tactical knowledge. Owing to the gradual liquidation of the Institute of Military Commissaries, these courses have assumed special importance. Successful attendance at these courses enables the best political workers to remain in the army or in administrative posts. The course lasts one year and includes the following subjects:—

| <i>Groups of Subjects.</i>  | <i>Subjects.</i>  |
|-----------------------------|---|
| Political-economic sciences | Universal economics and Soviet economics; history of political sciences; international relations; revolution; Leninism. |
| Military sciences ..        | Technique of the war; tactics and strategy; military administration; history of military science.                       |
| Political sciences .. ..    | Political work and propaganda in war-time; political work and propaganda in peace-time.                                 |
| Natural sciences . . .      | Principles of physics; chemistry; biology; geology, etc.  |

The time allotted for the studies is divided as follows: one third, political-economic subjects; one third, military subjects; one third, remaining subjects.

The majority of students are men of elementary education: 77 per cent. are workmen, 8 per cent. peasants and 15 per cent. half-educated men. 31 per cent. of these students belonged to the Communist Party before the war, while 69 per cent. joined the Party in 1918 and 1919.

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## INTELLIGENCE IN THE FUTURE

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By LIEUT.-COLONEL H. DE WATTEVILLE, late R.A.

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WITH the conclusion of the Great War all the active functions of Intelligence came to an abrupt end. This was, after all, one of the natural consequences of the Armistice. Then, as the countless Intelligence personnel began to dwindle, so the prestige of its duties withered also. This process of diminution accelerated when war-time expenditure was reduced; it was brought to a close at the first call of peace economy. The subsequent flight from Intelligence grew almost as complete as the stampede which, at the same moment in Germany, preceded the crash of the paper mark; and ambitious young staff officers sought more profitable fields for advancement.

It was not only the scale of Intelligence that changed, it was also the atmosphere which had surrounded it in war. As the men, who had gained first-hand experience of Intelligence work under belligerent conditions, dropped out, so did the manner in which Intelligence was regarded alter correspondingly. At first it grew introspective and more historical in outlook. Soon, when the task of digesting war experience had come to an end, the work infallibly dropped back to the scale and to the methods of 1914. The customs of pre-war days asserted themselves more strongly; new problems of peace finally came to overshadow the memories of war. This result cast no aspersion on the parties concerned; it was inevitable, since war Intelligence in time of peace is virtually non-existent, or, at best, might be compared to a sleeping partner in a commercial firm.

It is, indeed, perfectly legitimate to claim that the Fighting Services now possess Intelligence organizations that are vastly superior to those of 1914. Their whole work is based, moreover, on the codified experience of the last years of the great struggle, so that the starting point of a new war-time Intelligence system must stand on an infinitely higher plane than at the outbreak of the recent European War. The further expansion of such a system would undoubtedly take place smoothly and effectively. It may be assumed with every reason for confidence that should the complex machinery of Intelligence need to be resuscitated, it will re-appear more or less in the shape that it bore in 1918; it would be a re-incarnation of that highly successful organism—elaborated and perfected. But it seems that between the Intelligence branches now at work, however efficient these may be and however well they may

function in peace, and the vast machinery of Intelligence when set up on a war basis upon the model of 1918, there is a great gap. This is a gap that needs to be bridged—and in a manner for which the Great War provides no true parallel.

This statement needs expansion. For example, the Intelligence personnel of the War Office in 1914 was swept away by mobilization. The state of that Intelligence Branch when it was called upon to face the tasks thrust upon it may best be appreciated from the statements, relative to this period, which have been made public by the Director of Operations at the War Office, then newly appointed to that position on mobilization. This was no other than Major-General Sir Charles Callwell, whose opinions are plain.<sup>1</sup> His position as head of the military Intelligence on the outbreak of war—to quote his own words—“illustrates with signal force how completely the relative importance of the Expeditionary Force as compared to the task which the War Office had to face had been misunderstood when framing plans in advance for the anticipated emergency.” . . . “The arrangement . . . indicated, in fact, a fundamental misconception of the military problem with which the country was confronted.” Although these words were applied to the personal position of the author they appear to hold good of the attitude of many authorities towards Intelligence before the War.

This is a state of affairs that will never recur; most of the shortcomings which came to light in 1914 have been banished or guarded against. If the British Navy and Army and Air Force are again involved in a war with a Continental Power, even if it be only remotely comparable to the late war, it may be assumed that the Intelligence sections accompanying, or dependent upon, the fighting formations of the three Services will be efficiently staffed and organized. They will unquestionably be in a position to function from the outset in the most profitable manner with all the lessons of the Great War behind them. Yet the outset of a future war will inevitably bring in its train fresh problems that may require totally new methods of treatment.

In order to comprehend the nature and magnitude of the tasks that would fall to the lot of Intelligence on such an emergency, it is necessary to examine the situation that might arise at such a crisis. It is preferable to begin with the extreme case of a war between the British Empire and an European power of the first magnitude and to argue on that basis. In the event of operations taking place on a lesser scale, the principles evolved will only require to be reduced in due proportion.

It may be accepted as axiomatic that, in the former case, the first combatant activity will be displayed by those forces which can be mobilized with the least possible delay, i.e., the aerial and naval forces,

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<sup>1</sup> “Experiences of a Dug-out, 1914-1918.” By Major-General Sir C. E. Callwell, K.C.B. 1920.



on either side. This might be accentuated by actual raids carried out by picked forces landed either on the coast, from surface or under-water vessels, or inland from aircraft. Such activity would more than probably be accompanied, throughout this period, by a campaign of propaganda, of economic and social intrigue, conducted with the utmost intensity and subtleness.

The possibility that the combatant activity of larger but purely military bodies (using the term military in its narrowest sense) could take place before the lapse of at least eight to thirty days, according to the geographical position of the belligerents, is rapidly dwindling. This is due to the probability of aerial activity. That is to say that the more limited tasks of Intelligence, in strict terms of an overseas campaign, will only commence some time after Intelligence staffs have begun to function to the full and at high pressure in other aspects of warfare. In other words, the Intelligence branch destined to work with the army in the field overseas might find no outlet whatever for its efforts during a very critical period. The opening stages of the campaign of 1914, it may be repeated, where the mobilization of our forces proceeded according to plan, offers no parallel to the situation that might have to be faced in the future. Intelligence had an easy beginning.

Again, it is now stated that, in the future, at the opening of a campaign it shall be incumbent on His Majesty's Government to decide whether the war shall be fought primarily in the air and on sea or on land. Consequently, the question of a predominant Service becomes involved; is Intelligence to follow the same solution and shall the predominant Service be responsible for the bulk of the Intelligence work that may arise in the event of a war fought under these conditions?

Lastly, a minor but all-important question arises: it is this. Aerial reconnaissance and raiding on a scale, such as the future may witness, may yield information that is of immense military value, let alone of economic and industrial importance of the first magnitude. Air reconnaissances on the Western Front in 1918 were easily arranged; their results were straightforward and quickly exploited by Intelligence. Will the air war of the future permit of such simple solutions? These reconnaissances, supplemented by Intelligence deductions of the widest scope, may prove yet more decisive than in the past in moulding prospective operations and allotting the tasks in view to the three Services.

To a great extent it is impossible to pursue the discussion further, since it intrudes too far into the question of the higher conduct of a great war. But the matter may be summed up as follows: The outbreak of a future European war is not likely to follow the same lines as that of 1914; there are now three fighting Services, not two; air fighting will precede contact on the ground. Co-ordination of Intelligence in such warfare becomes imperative, while a central distribution of work and—still more—the adoption of a system of work that will ensure the



acquisition of the desired information and its distribution to the right quarters is becoming more than ever necessary.

So far the tasks falling to the lot of Intelligence relate to the purely combatant branches. It is now time to consider, and at somewhat greater length, those other branches of Intelligence of a less obvious but of an equally important nature. On this subject it is best to allow Sir Charles Callwell to express an opinion once more.<sup>1</sup> "Very few officers in the regular army are conversant with international law. Nor need they, in the days before 1914, to interest themselves in the status of aliens when the country is engaged in hostilities, nor with problems of censorship of the post and telegraph services, nor with the relations between the military and the Press, nor yet with the organization, the maintenance and the duties of a secret service. Before mobilization all this was in charge of Colonel (now Lieut.-General Sir G.) Macdonogh, who had made a special study of these matters, and who had devised a machinery for performing a number of duties in this country which on the outbreak of war necessarily assumed a cardinal importance and called for efficient administration at the hands of a large personnel, only to be got together when the emergency arose. But Colonel Macdonogh on mobilization took up an important appointment with the Expeditionary Force, and went off to France, carrying his assistants with him."

This too, is a state of affairs that will not recur. Yet that is not everything. To comprehend the problem, it would be best to quote from the statement made by Brigadier-General G. K. Cockerill, C.B., the Director of Special Intelligence, on taking leave of the organization which he controlled during the war<sup>2</sup>:—

"The Directorate of Special Intelligence, to give it the title by which it is best known to you, grew from small beginnings. When the war broke out it consisted of three General Staff officers (all of whom at once joined the Staff of the British Expeditionary Force) and a special bureau of four officers. . . . As soon as war was seen to be inevitable, a scheme for the censorship of British cables was put into operation. This scheme was prepared with such remarkable prevision that it has never been found necessary to modify its principles in any important particular. . . .

"So rapidly did the work extend and the necessary staff expand, that in March, 1915, the branch was reorganized as the Directorate of Special Intelligence, whose function it has since been to expose and frustrate the clandestine activities of enemy agents under whatever form they might be encountered.

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<sup>1</sup> Sir C. Callwell, *op. cit.*

<sup>2</sup> See the *Times*, 10th January, 1919, where the D.S.I.'s statement is reproduced in full.

" Being thus charged with duties of supreme national importance, the Directorate has gradually attained a size never contemplated in peace, and actually numbers to-day over 6,000 persons. It is, in point of mere size, the sixth largest department of the Government. . . .

" You have obtained information of incalculable value to the Naval Intelligence, the Military Intelligence, and the War Trade Intelligence Departments. In the opinion of the Minister of Blockade, your work has contributed in a very large degree to the satisfactory working of the blockade, and, so far as the suppression of enemy trade is concerned, the information provided by you has been the most valuable acquired from any source, during the war, as a means of detecting enemy merchandise carried as neutral goods in neutral ships. . . .

" Through your essential assistance in preventing speculative transactions in raw materials, controlling prices, and estimating available supplies of vital war commodities, you have saved the country vast sums, amounting, in the case of a single transaction, to £1,500,000, and at a moderate estimate approximating in the aggregate to £200,000,000. Even more profitable than the money value of your services in this connexion has been the elimination of speculative contractors from allied business and the consequent security that war material ordered would be forthcoming on the due date. It may fairly be claimed on your behalf that you have proved the chief and in many cases the only executive instrument, not only for the discovery of enemy interests and for the counteraction generally of enemy activities, but also for the enforcement of regulations that were vital to the defence of the realm. . . .

" Even this statement does not exhaust the catalogue of your services. One branch of the Directorate of Special Intelligence has prepared and published the 'Daily Review of the Foreign Press' with its many supplements, political, economic, and technical; another has been responsible for the study of enemy methods of propaganda. One small section, not content with closing certain channels of enemy propaganda, has kept others open for the express purpose of distributing British propaganda. . . . Military material suitable for our own propaganda has been collected and prepared. . . .

" I am conscious that there are many other activities of the Directorate that I have not touched upon. Important decisions have been given in the realm of military international law; much trouble has been taken in the selection of Intelligence *personnel* for the field, and investigations, demanding technical qualifications of a high order, have been conducted. As typical examples, I may mention the highly skilled work of the staff of the chemical laboratory in connexion with secret inks; of the photographic and code experts, and of the professors of uncommon languages. Much of the work has been so secret that no reference to it is even yet permissible.

"I cannot close without reference to the work of those connected with the Directorate overseas. The kindred organizations in the Dominions and Colonies have been essential links in a service which is Imperial in character and world-wide in extent."

Such was the magnitude of the "defensive" Intelligence Service in 1918. The future can only see an increase in the extent and nature of the task. As the whole nation may have to be called upon to carry on the war, so the greater will become the importance of this aspect of the struggle. It can no longer be treated as a side issue when the whole tendency of the future is for the employment of economic and psychological weapons, as well as of guns and rifles, for bringing a campaign to a successful issue.

The scale of the defensive Intelligence problems of 1918 are not a true index as to their importance in the future. No useful purpose, moreover, could be served by attempting to conceal the fact that the difficulties of imposing "controls" on the nation and on its press might also meet with obstacles. In the first place, the controls would inevitably require to be applied in all their vigour at the very outbreak of hostilities, which alone might render them most unpopular and difficult to enforce. In the second place, they would be more searching in their nature and more drastic in their application. The Defence of the Realm Regulations of 1918 were, in many respects, of gradual growth, and had, at the beginning, been imposed on a very willing public. In any case they were more limited in effect. The future will also see a different state of affairs for the following reasons :—

- (a) The field to be covered will be wider. Foreign interest in our internal affairs is growing more acute and more formidable. New problems, such as those presented by the control of radio-telegraphy and telephony, particularly in regard to broadcasting, have arisen ;
- (b) Active propaganda and counter-propaganda, together with other forms of the publicity campaign or moral warfare, might have to be set in motion at a moment's notice and not after the lapse of years ;
- (c) The existing and probable future economic situation is not of a kind to permit of any remissness or blundering in financial or economic directions if war should occur.

It will have been recognized that in the mass of work grouped under "defensive" Intelligence there are only three aspects that are, strictly speaking, of a primary military nature ; these are :—

- (a) The closing or control of all seaports and intervening coast line, together with the censorship of all forms of information and publicity leaving the country, i.e., the isolation of Great Britain from the world except through controlled channels ;

- (b) The rounding up of all persons known or suspected of active or latent intention of harming the country ;
- (c) The enforcement of all " controls " of the civil population that may be required for any purposes of defence, e.g., anti-air-raid regulations.

In the past it had already been urged that such tasks could form no proper military charge. This statement is only partially true. These matters are, in fact, defence functions in a deeply important sense of the term, and military—as well as naval and air force—interests therein are more than considerable. Any attempt of the fighting Services to cut themselves adrift therefrom could only be disastrous. The lessons of 1916-18 are too plain to be mistaken. The necessity for these controls and the need for their thorough application with a military bias can only be gauged by those who were faced by the task in the past. The complexity of the problem is only equalled by the need of both civil authorities and population for military guidance in dealing with the case.

The future is not likely to see any decrease of the interests of the Services in such questions. It is only necessary to allude to the growth of the use of radio-telegraphy and telephony, including, of course, the amazing spread of broadcasting, to realize that all authorities concerned in defence have an increasing responsibility in the matter.

This same mention of radio-telegraphy also emphasizes the fact that the growing rapidity of modern systems of communication has enhanced the value of correct and complete information to an incredible degree ; it has rendered secrecy of infinitely greater importance ; and has magnified the scope and range of the arts of dissimulation and of the dissemination of false information.

The organization, co-ordination and the control of this many-sided being, Defensive Intelligence, can be no light task. It has been urged and might still be argued, that since it will be only a subsidiary, or, at best a secondary, aspect of any positive action in war, it can be left to the care of each and every authority that is called upon to exercise any belligerent activity however indirect or remote, i.e., that Intelligence must take its chances. Such treatment, it is claimed, could not prejudice any prospective operations, since Defensive Intelligence remains a minor partner in the business. This, however, has not been correct in the past, and is still less likely to be so in the future. The soldier can acquire information of value to finance or shipping interests ; the airman may depend on the censorship for precious indications as to the results of his attacks ; the sailor may request a Ministry of Information to conceal by false information the system on which he manages his convoys. The whole activity of Intelligence interlocks and will do so more and more as the warfare of the future comes to depend increasingly on psychological and economic pressure to support the older and more

direct weapons of force. This may not appeal as an attractive conception, but the experiences of 1914-1918 show the obvious "tendencies."

The question arises as to how the Government Departments interested in Intelligence, viz., the fighting Services, the Foreign Office, the Home Office, the Treasury, the Board of Trade, the Postmaster-General, the Collector of Customs, in addition to such wartime creations as a Ministry of Information, a Ministry of Shipping and other authorities, can be brought into some general system that will allow of Intelligence work in the wide sense of the term being carried out as it should be; that is to say with its maximum degree of efficiency with the least possible expenditure of effort and money from the outset of a great war. Moreover, the fact should not be overlooked that Intelligence is a service that has to be staffed on the outbreak of war, and multiplied beyond all recognition on the spur of the moment. In 1918 there were signs that the supply of specialists and other properly qualified personnel for this service might finally be drained dry. Other wars might present fresh requirements more difficult to satisfy, causing an urgent necessity to deal sparingly with the available specialists, scientific establishments and other adjuncts that are essential to Intelligence. Competitive exclusiveness on the part of any one authority interested can only be mutually harmful.

Certain deductions are now permissible:—

(1) It might be easy, it would certainly be logical, to put forward a very strong case for the general subordination and control under one authority of all Intelligence organisms functioning in war. It naturally springs to mind that this body should be a Ministry of Defence; such a solution indeed would seem—at any rate to the Intelligence Officer—to approach perfection. If that Ministry is not to be, then some equivalent organism must be sought. Intelligence, unlike its sister branch of war, operations, is centripetal in its workings; combatant operations are more properly speaking centrifugal. Intelligence will more readily adapt itself to and thrive under a centralized régime. Intelligence resembles those organs of the human frame that collect and convey all physical sensations from the outside world to the brain, while operations may frequently be likened to the muscular activity that is based on the resultant conceptions of that directing centre. It would not be fair, perhaps, to press this analogy too far, more particularly in the case of combatant operations on land. Nevertheless it appears that, in the case of strategic plans to be elaborated both in peace and in war, the adoption of a system whereby some centralised control of Intelligence can be exerted is desirable. This need will become all the greater since the combatant strategic plans of the future will scarcely fail to be closely linked with "Intelligence warfare" abroad, extensive "security measures" at home, and economic precautions throughout the world. If, then, as now seems settled, there is not to be a Ministry of Defence, would it be too much to hope that the Committee of Imperial Defence



may create some Central Intelligence Bureau, whose function would be that of supervising the scattered threads that are being woven at so many different places—both in peace and in war? Should the creation of such an organ prove feasible, it does not appear desirable or necessary that this body should usurp or curtail any functions of the existing Intelligence branches of the fighting Services, or still less any duties of the Foreign Office. The "raw material" of Intelligence should still be treated by these various departmental branches independently; but utilization of their ultimate results, their general guidance along certain directions, the co-ordination and prevention of overlap, must come from outside these branches. Moreover, in wartime, the distribution of emergency personnel will need control. The main duty of such a Central Intelligence Bureau will thus be combination of results and a degree of supervision. It would be an ideal body to place at the disposal of the proposed Committee of the Chiefs of Staff of the three Services. It is, in fact, very difficult to imagine such a Committee evolving any joint plan of defence without the presence of an organism of this nature at its side, especially during peace, when complete information is of paramount importance in formulating even a simple plan of campaign.

(2) There is every reason to hope that the bulk if not the whole of Defensive Intelligence matters would, in time of war, be handed over to a "Defence Commission" that would assume as its special charge the control of the civil population, together with all the subsidiary naval, military and air force problems that arise out of this control or, more properly speaking, code of controls. The expansion and working of the late Defence of the Realm Regulations during the Great War is proof of the urgent need of such a body. During those years every Government Department, the permanent offices no less than the wartime creations, continually had recourse to the Defence of the Realm Acts in order to strengthen its powers. Each of them could have concealed its activity when instigating unpopular measures by covering itself behind the fighting Services. This was possible, in that the original set of regulations had been compiled and issued by the War Office together with the Admiralty. The fighting Services should, in their own interests, favour the creation of such a commission without further delay. There exists at present no field where potential friction, duplication of work and misunderstandings between Government Departments are more likely to occur.

The management of the Postal and Press Censorships, still vested in the War Office, should in addition be allocated to such a Commission. Admirable as was the work of the Military Censorship during the late war, there can be no reason why the Army should continue to be saddled with a responsibility that infringes so far into civil life. It makes for unpopularity of the Services, a fact which might mean more in the future than in the past.



Two conditions present themselves as requiring fulfilment in setting up such a Commission. Firstly, the fighting Services—for a variety of reasons—must be strongly represented thereon. Secondly, there must exist a small permanent nucleus of staff which should evolve and maintain the schemes whereby the whole machinery could be set going at an instant's notice.

The Committee of Imperial Defence, or the Committee of Chiefs of Staff, would thus possess two bodies through which they could exercise some supervision and control over the huge volume of Intelligence work waiting to be done in time of war. The first would be the Central Intelligence Bureau, whose task would be that of co-ordinating the various bodies engaged in acquiring all forms of Intelligence concerning the hostile nation or nations. The second would be the Defence Commission, preferably placed under a chairman of Cabinet Minister's rank, which would function within the Empire only and be distinct from active combatant tasks. But the fighting Services should preserve—in certain matters at least—a decisive voice in the work of the Commission. The Defence Commission would necessarily exercise a watch over all Intelligence activities throughout the Empire; it would thus be literally "Imperial" in its scope.

All Government Departments interested in defence matters should possess access to, or representation on, the Defence Commission in proportion to the importance of their task.

The relations of the Central Intelligence Bureau with, and its dependence on, the Committee of Imperial Defence, the Cabinet and Government Departments is a more difficult problem. It depends so far on the system adopted for the higher conduct of war as to require separate discussion.

(3) There is an urgent need of the institution of a nucleus of permanent personnel in all branches of Intelligence, except perhaps such as would be mobilized for actual combatant duties. Reference may be made to Sir Charles Callwell for support of this view. The same need would undoubtedly make itself felt in each of the fighting Services. Intelligence is very largely the task of a specialist and the technique of the work is not to be so easily or rapidly acquired. One branch of specialists, that has now existed for some years in this class of work, and worked with conspicuous success, might be cited as palpable proof of validity of this contention.

The backbone of the proposed Central Intelligence Bureau, the Defence Commission, the Intelligence Branches of the fighting Services should be considered as consisting, firstly of temporary appointments, and secondly, of a "permanent staff." But the selection of the directing heads of these offices can follow no fixed rule of selection.

So far this relates to peace conditions ; but war seems to require little change of principle, though a vast expansion of personnel.

To some extent Intelligence personnel must always be extemporized when a mobilization takes place. So one man, whose services might prove invaluable for the performance of certain duties in one campaign, might easily require to be replaced a few years later, as having grown " rusty " or out of date for very similar work. There must consequently be found on any Intelligence Staff in time of war, firstly, the temporary official possessing either a good general knowledge of the task in hand or special gifts for that type of work ; secondly, the permanent worker ; thirdly, the specialist temporarily enlisted for a particular class of work. The problem of the potential expansion of the peace establishments on to a war basis follows from the adoption of this principle and from financial exigencies. It must be calculated according to the emergency, and will depend chiefly on temporary subordinate personnel.

(4) Commercial and industrial Intelligence now demand consideration. The need for machinery whence this type of information may be derived has been discussed in these pages.<sup>1</sup> There exist certain authorities already dealing with questions of this type and it would rest with the Central Intelligence Bureau to exploit and to suggest to such authorities their most profitable modes of work.

(5) Technical Intelligence, as concerned with industrial and scientific progress, might require special thought. National laboratories and Royal Engineer boards already exist : there is no necessity to allude further to their work which is self-evident. But, apart from the acquisition or examination of industrial products of warlike value, there arises the serious, but less obvious, question of safeguarding both the manufacture of future war material and of potential inventions of possible belligerent application. Here again there is an important field of activity for a Central Intelligence Bureau in peace or for a Defence Commission in war. The possibility of eliminating competition between the fighting Services in these matters also exists. Some aspects of the problem have already been studied in the JOURNAL.<sup>2</sup>

(6) The organization of an Intelligence Branch for the purposes of Home Defence should not be overlooked. Here the work lies, firstly along the coast ; secondly, in connection with aerial warfare. The solution of this question during the Great War left much to be desired. Here again the Central Intelligence Bureau might assist in the formation of the required Home Defence organization of this type ; it should not be created according to an exaggerated perspective of facts. But it

<sup>1</sup> See " Economic Intelligence," by " Rousseau," JOURNAL of the R.U.S.I., November, 1925.

<sup>2</sup> See " Industrial Strategy," by Captain MacLeod Ross, JOURNAL of the R.U.S.I., May, 1926.

might be worth recalling that Intelligence in the Home Country is liable to be flooded with a mass of work, such as enlightening the police, fire brigades, municipal authorities ; enquiries of all kinds—mostly foolish ; press matters and the like ; all work that must be carried out, if only to allay public anxiety.

(7) Lastly, the whole question of Intelligence work in the future requires to be thrashed out and expounded to all those authorities who may become involved in its many eddies and backwaters. Few outside those who have actually seen the processes at work can realise the magnitude and gravity of the various subterranean forces that, for want of a better term, may be styled the methods of " Intelligence Warfare." The future can only see these processes growing in virulence and intensity. It is, therefore, urgent that the whole sheaf of problems that arise out of this type of war should be discussed, not only among the heads of the fighting Services, but among all those authorities who might be called upon to guide the nation through another crisis such as that of 1914-18. The true venue for such discussion is the new Imperial Defence College ; it is there that the Chiefs of Staff can best propound their views to and advise their potential civilian collaborators in time of war.

Such are the conclusions which seem to flow naturally from a consideration of the Great War and of the changes that seem to be coming in the very nature of warfare. There seems no need to add more.

In conclusion, it may be convenient to classify possible wars into four groups :—

- (1) The major war on a Continental scale ;
- (2) The lesser war in which Great Britain is primarily involved, yet in which some or all of the Great Powers are interested, but not overtly engaged ;
- (3) The small war of little interest to any great Power ;
- (4) A major war, the outbreak of which might find Great Britain a neutral.

The first three cases have been dealt with, since it becomes merely a matter of scaling down the full extent of the expansion of Intelligence personnel and of its defensive precautions. The last case deserves a word by itself. Neutrality must involve the performance of certain duties and the adoption of certain precautions. These steps would partake inevitably of a nature closely akin to Intelligence work. In this event the suggested Defence Commission would begin to function, in a manner proportionate to the emergency, under the style of a " Neutrality Commission." This course of action involves no overt increase of naval or military activity and might, in addition, offer many distinct advantages. The Intelligence branches of the fighting Services would continue to perform their normal peace duties, until and unless the emergency should demand their intervention.

## STRATEGY OF INFERIOR NAVAL FORCES

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By LIEUTENANT-COMMANDER H. L. TERRY, D.S.C., R.N.

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AT such a time as the present, when the demand for economy is paramount and the strength of our sea forces is largely limited by International Treaty, it is as well to realize that in a future war we may well find ourselves in a position of initial inferiority in the main theatre of operations; moreover, increased responsibilities and the introduction of new elements in warfare all tend further to reduce our strength at sea.

History provides us with a number of instances in which a weaker sea Power has succeeded in defeating a numerically stronger one. It behoves us, therefore, to study these episodes and see what were the strategic principles which brought about such successes. By so doing we shall become more alive to our own weaknesses and less liable to adopt a false line of strategy or to misjudge our enemy's powers of taking the offensive in war.

Let us first examine in what the strength of naval armed force consists. It is a compound, on the one hand, of mass, which is material strength, or more fully the numbers of battleships, cruisers, destroyers, submarines and other craft; and on the other hand, of mobility. Mobility is considerably more complex and is derived from speed, radius of action, fuelling stations and strategical bases, coupled with a high degree of efficiency both in personnel and material.

To put the sea power of a nation out of account its navy must either be destroyed, in which case it loses both mass and mobility; or it must be driven off the sea, that is to say, blockaded, in which case it will be deprived of its mobility, whilst still retaining its mass. Of the two, the first is the surest and quickest means since the existence intact of enemy forces represents so much counter effort as to create equilibrium and the only means of upsetting this equilibrium lies in the destruction of the enemy forces.

There are two ways of fighting, the one to attack, which is the offensive form, the other to defend oneself, which is the defensive form.

History has shown us that the offensive form is the only one which will produce quick decisions.

Pitt declared in Parliament that a defensive war was the precursor of inevitable ruin, and Mahan stated that "every proposal to use a navy as an instrument of pure defence is found faulty upon particular examination and the various results all proceed from the one fundamental fact that the distinguishing feature of a naval force is mobility, while that of the passive defensive is immobility. The defensive may be imposed but should never be voluntarily accepted."

Now let us take an example of the strategy of the weaker power from our own past history, the struggle which led up to the defeat of the Spanish Armada. This has often been regarded as a series of disconnected, lucky and somewhat piratical exploits. On closer examination, we shall find in them the expression, as far as was possible under a capricious and parsimonious Sovereign, of sound strategic principles.

Among the reasons which led up to this struggle was the opposition by Spain to the natural and praiseworthy desire for trade and expansion shown by our ancestors; King Philip, be it noted, had placed an embargo upon all foreign enterprise in his new world possessions. The policy, on the pursuit of which our seamen and merchant adventurers were bent, was one of breaking down this monopoly of Spanish trade. This they prepared to do by peaceful means, but at no time did they neglect to prepare to support their policy by force of arms if necessary.

We may consider these operations as having begun with Hawkin's first slaving voyage to the West Indies in 1562. Nothing particular marks this or the second voyage, which were, indeed, carried out quite peacefully, but the third, in which we find both Hawkins and Drake taking part, ended disastrously owing to a piece of abominable treachery on the part of the Spaniards at San Juan in Mexico. The two leaders were lucky to escape with their lives in the only two ships, out of the original six, which returned home to England. From this point the attitude of our seamen towards Spain was one of irreconcilable hostility. In 1570 and 1571, Drake made two voyages to the West Indies, the first with two ships, the second with only one, to discover where, at the very source of her prosperity, the most severe blow could be struck at England's enemy.

The result of these two voyages of intelligence was the preparation of one of the most daring and successful of his expeditions, whose aim was to intercept the Panama treasure convoys and to sack Nombre de Dios.

In 1574 at the request of the Governor of the Netherlands, Philip ordered a force of 100 light vessels and 20 great ships to be prepared at Santandar. The exact use for which this force was intended does not seem to have been known, but one of Spain's greatest seamen, Mendendez, was recalled from the West Indies to take command. When Mendendez arrived in Spain, he pointed out to Philip that the only way



to stop the English exploits in the West Indies which were causing more and more annoyance and anxiety, was to attack the enemy at home, and presented a complete scheme for doing this, which contained, among other things, plans for establishing an advanced Spanish base at the Scilly Isles. Approval was given, and Mendendez was ordered to put the scheme into execution, but he died the same year before he was able to carry out his project, and the threat did not materialise until fourteen years later; but the possibility, or really the eventual certainty, of such a move was never out of the minds of our seamen. It was only the Queen's determination, at apparently any risk, to avoid open war, that prevented them from smothering the danger before it could develop. This policy of pinpricks, raids on Spanish colonies and treasure ships continued, but though this was eventually to force Philip to commit the great mistake of sending out the Armada ill-prepared and badly manned in every way, it was as yet no direct attempt to injure Spain's sea power. In 1577, however, a proposal attributed by some to Hawkins, was put before the Queen, in which the Queen was asked to provide ships enough for an expedition to the banks of Newfoundland where the Spanish sailors were trained in seamanship. The ships were to be attacked, and to quote the scheme, "the best I will bring away and I will burn the rest. Count us afterwards as pirates if you will, but I shall ruin their sea forces, for they depend upon their fishermen for their navies."

During this period Hawkins, the controller and treasurer of the navy, having always in mind Spain as the future enemy, turned his attention to the building of ships which should be faster and handier than the Spanish ships. He lengthened the existing ship's keels, made their lines finer, cut down their upper works, improved their rigs, and finally improved and redistributed their artillery. The pay of the men was raised, as Hawkins said "it would bring better men into the Service such as would make shift for themselves and keep themselves clean, without vermin."

It was not until late in 1585 that the Queen consented to take some steps to forestall the King of Spain's preparations and strike a first blow. At the end of March, 1586, Drake sailed with orders "to impeach the joining together of the King of Spain's fleets out of their several ports, to keep victuals from them, to follow them in case they should come forward towards England or Ireland, and to cut off as many of them as he could and impeach their landing, as also to set upon such as should either come out of the West or East Indies into Spain or go out of Spain thither, and particularly to distress the ships within the havens themselves, whereof the manner how is deferred to your discretion." The result of this was the descent upon Cadiz, and the very interesting and important operations with which Drake followed it up. On leaving Cadiz, his next objective was the destruction of the Spanish squadron based at Cape St. Vincent, whose duty it was to meet the treasure fleets



on their arrival from the Indies. Unfortunately, these ships made good their escape to Lisbon, so Drake determined to capture and render useless their base at Cape St. Vincent.

After successfully doing this, he proceeded to carry out a reconnaissance of Lisbon, the chief point of Spanish concentration, and then returned to Cape St. Vincent, from where he wrote as follows :—" As long as our ships and the wind and weather permit us, you shall surely hear of us near the Cape St. Vincent. If there were six more of Her Majesty's good ships of the second sort, we should be better able to keep the forces from joining, and haply take or impeach his fleets from all places in the next month and so after which is the chiefest times of their return home, which I judge in my poor opinion will bring this great monarchy to those conditions which are meet." A little later, on the receipt of definite information, Drake suddenly sailed for the Azores to intercept the treasure fleet, the one thing Philip had most to fear. All ideas of invading England vanished and Santa Cruz hurriedly left Lisbon with every ship he could scrape together to save the treasure fleet, at the moment when Drake, with his great prize, the " San Felipe," put into Plymouth.

About this time a new scheme for the rapid mobilisation of the English fleet was prepared, and was such that on 22nd December, 1587, Howard, who received his instructions only seven days before, was able to report that all his ships would be ready for sea fully manned and equipped in three days' time.

Drake now received the command of an independent squadron of thirty ships and was given instructions for the 1588 campaign, to proceed at once to the Spanish coast and look into the ports, and wherever he found Spanish ships assembling to do his best to distress them and interrupt further concentration, without exposing his force to undue risk ; if, on the other hand, he found concentration complete and the fleets at sea, he was to send a dispatch vessel to warn the Government, and with his own ships to follow the enemy and seize every opportunity the weather and bad seamanship should give him of attacking. At this point the death of Santa Cruz revived the Queen's hopes of peace, and Drake was ordered not to leave, and he showed keen appreciation of the moral factor when he said that his anxiety to strike early was only added to by the fact that he knew, without flattering himself, what fear there was on all the coast at his name.

Further orders were eventually received which ordered the fleet to be split up into three divisions, two forming the Western and Eastern Channel guards, and one which was to attack the Spanish lines of communication with the Indies. The error of such a dispersal before an enemy intending to take the offensive was well realized by Drake, who immediately wrote, " If Her Majesty and Your Lordships think that the King of Spain meaneth any invasion of England, then doubtless his force is and will be great in Spain, and thereon he will make his groundwork

or foundation whereby the Prince of Parma may have the better entrance, which in mine own judgment is most to be feared ; But if there may be made such a stay or stop by any means of his fleet in Spain, so that they may not come through the seas as conquerors, which I do assure myself they think to do, then shall the Prince of Parma receive such a check as were meet. To prevent this I think it good that these forces here should be made as strong as to your honours' wisdom shall be thought convenient, and that for two special causes, first that they are like to strike the first blow, and secondly it will put great and good hearts into Her Majesty's loving subjects. My very good lords next under God's almighty protection, the advantage and gain of time and place will be the only and chief means for our good,—for that with fifty sail of shipping we shall do more good upon their coast than a great many more will do at home here."

Drake's despatch influenced the council and the orders were changed. Shortly afterwards, however, the Queen suggested that the fleet should be somewhere near at hand at home so as to guard all the threatened points. The error of this move was obvious, and Lord Howard sent the following reply :—" Sir Francis Drake, Mr. Hawkins, Mr. Frobisher and others that be men of greatest judgment and experience as also my own concurring with them in the same is that the surest way to meet with the Spanish fleet is upon their own coast, or in any harbour of their own, and there to defeat them." His counsels prevailed, but adverse winds, and lack of provisions, prevented him from carrying out his plans of going to meet the Armada off the coasts of Spain, but the spirit which dictated those plans had already had its effect. The Armada sailed from Spain unmolested and was not attacked until within striking distance of our shores. The actions fought on the way up Channel have no particular strategical interest, but the final and perhaps the finest episode is the relentless pursuit which was kept up until the Armada finally rounded the Orkneys on its way home to Spain, when it could be left to the elements to complete its defeat.

Now let us turn to modern times and examine one or two features of the last War, which in some aspects resembled the struggle between England and Spain in the 16th century. England now held the position that Spain had held ; she was the centre of a vast Empire, of great potential wealth and strength, but with all the weaknesses inherent to such a position. Like Spain, she depended on command of the seas for the wealth and strength of the Empire and for the very life of the home country, and was possessed of a great and powerful fleet, strengthened by centuries of tradition. Germany, on the other hand, not unlike the England of the days of the Armada, was still young as a great Power, and was pursuing a policy of expansion which was certain to bring her into conflict with the British Empire, thus making it certain that the most vital part of the coming struggle would take place at sea. Her navy had not as yet been tried in battle and had little or no tradition.

The steady development of the German Navy during the years preceding the war, and its careful and thorough training are well known. The building of the vitally important strategical canal connecting the Baltic and the North Seas, and even the special direction given to her ship construction indicate the thoroughness with which the probable strategic situation was appreciated. Admiral Scheer, in his book, "Germany's High Seas Fleet," says that the root principle of their Navy Bills was that they should construct a fleet strong enough to fight against a superior hostile fleet, and this was the reason for primarily constructing battleships and destroyers; and further, knowing where encounters were likely to take place, they had attached particular importance to the greatest defensive and offensive powers and had considered they might regard speed and radius of action as of secondary importance.

What use did Germany make of this carefully prepared instrument? By a comparison of the strengths of the respective fleets, it was known that Germany would reach her most favourable position in January, 1915, when her "König" class battleships were put into commission, and Admiral von Tirpitz, in a letter to the Chief of the Naval Staff at Imperial Headquarters, emphasises this fact by saying, "as time goes on our chances of success will grow worse, not better, as the English receive a substantially greater increase by new building than we do, and keep in full practice."

The war orders issued by the Commander-in-Chief of the High Seas Fleet, to quote Admiral Scheer, were framed as follows:—"The objective of the operations must be to damage the English fleet by offensive raids against the forces engaged in watching and blockading the German Bight, as well as by mine-laying operations on the British coast, and submarine attack whenever possible. After an equality of strength has been realised as a result of these operations, and all our forces have been got ready and concentrated, an attempt will be made with our fleet to seek battle under circumstances unfavourable to the enemy. Of course, if a favourable occasion presents itself before, it must be exploited. Further, operations against enemy merchant ships are to be carried out in accordance with prize court regulations, and the ships appointed to carry out these operations in foreign waters are to be sent out as soon as possible."

These war orders undoubtedly contained the necessary elements for success, had they been carried out with real vigour by a fleet whose leaders were fully imbued with the offensive spirit, and who, realizing the influence Great Britain's sea power must have on the course of the War, were ready to accept some risks. Given such leaders, that fleet might never have had to submit to the unforgettable humiliation which it suffered on 21st November, 1918.

We know what early opportunities were given to the German Fleet on the occasion of the action in the Heligoland Bight, for going a good way towards obtaining that much needed equality of strength. In this connection Admiral von Tirpitz complained that "The crucial point seemed to be that on the approach of the English, the order was not instantly given for the whole fleet to put to sea with every available ship. If there were stronger elements of the British fleet in the Bight, there could be nothing better for us than a battle so near to our own ports. If the English had only weak forces and fell back, the fleet had at any rate the opportunity of remarkably good practice in the deployment of all our vessels out of the river mouths, and in the concentration with the prospect of a battle. Unfortunately this was not done, nor were the cruisers reinforced." Here, surely, was a favourable occasion presenting itself and yet not being exploited, and it was inevitable that such inaction should give rise to feelings of disappointment and provoke hostile criticism.

The mine-laying operations carried out by the German Fleet cannot be said to have been numerous. Six attempts only at laying offensive minefields were made during the first ten months of the War. In August—the exploit of the "*Königin Luise*," in October four torpedo boats were sent to lay a minefield off the Thames, but were caught by the "*Undaunted*" and sunk; at the same time the "*Berlin*" was sent out and is credited with having laid the mine which sank the "*Audacious*"; in December the "*Kolberg*" laid mines on the occasion of the Scarborough raid; and in May and June, 1915, the "*Meteor*" carried out mine-laying operations off the Northern coast of Scotland.

We know that on 16th December, 1914, on the occasion of the Scarborough raid, there was a further opportunity for the Germans to have destroyed a detachment of our fleet, and Admiral Scheer refers to the impression which prevailed that another specially favourable opportunity had been missed.

After reading Admiral Scheer's book, one is left with the impression that those who were responsible for the employment of the German sea forces were always obsessed by the awful things that might happen to the German fleet if it were allowed to venture out too far or too often, and never seem to have given much thought to what it might have done to the English Fleet had they only tried. How to defend themselves seems to have been the first consideration. Admiral Scheer, referring to the means they possessed for bringing about an equalisation of forces, says "we had at our disposal the destroyers and submarines which could be spared from the defensive organization of the Heligoland Bight." Later, when referring to the Commander-in-Chief's intention of giving battle with full confidence in victory, he says that what held him back was the reflection that the whereabouts of the British Fleet was absolutely unknown, that if the fleet went out the German Bight would be left



without any protection against mine-laying and other enterprises, and that our ships might suffer losses from the operations of enemy submarines, for which there would be no compensation in the way of victory if the British Fleet was not found. It is very difficult with such a war-like people as the Germans to reconcile such half-hearted execution with the preparations made before war, it seems impossible to believe that they did not realize that offence was the best defence, or that any move on the part of their fleet must inevitably provoke activity on the part of their enemy even if he were not already at sea.

We know that their sorties became less and less frequent and that in consequence the morale of their fleet became worse and worse. The submarine, a weapon which, used vigorously against our fleet, might have done much to reduce our material superiority, was turned against our trade, and from that moment it would seem that all idea of seeking a decision in battle was abandoned, since personnel had to be drawn from the main fleet, and all the material resources available for the navy conscripted in aid of the submarine campaign. Finally, and not without irony, the mutiny in the High Seas Fleet—the very instrument to which they should have looked as the most effective against their chief enemy, England, was to be the first of those stabs from behind which helped to bring Germany to her knees.

The historical instances which we have just cited, abound in lessons; let us try and deduce therefrom the line of action to be followed by the Power having the weaker forces. His fundamental difficulty is one of lack of numbers and this must be compensated by increased mobility. The enemy will have both mass and mobility to attack; his superior numbers can only be reduced by an active policy of attrition, whilst his mobility will best be impaired by striving to obtain and keep the initiative.

Let us divide strategy into that of peace and war. With regard to the first, it is essential to lay the greatest stress upon the importance of preparation, as only by complete readiness in every respect can we hope for a quick decision. To delay a decision will give time to a stronger Power in which to develop ever-increasing strength and possibly rectify omissions in preparation. That a policy of unpreparedness is absolutely suicidal is shown by the disasters which befell Spain in her war against the United States, and Russia in her war against Japan. In the latter case particularly, the sudden and swift offensive on the part of the Japanese created a situation which all the resources of Russia were unable to retrieve, yet in both instances the probable course of events was amply clear for some time before the outbreak of war. Financial reasons have been advanced as an excuse for the unpreparedness of Spain, but it is surely inexcusable for a nation to adopt a policy which it is unable, for financial reasons, to back by force of arms if it becomes necessary. Such a course can only lead to disaster. Let us consider,

therefore, what preparations are necessary to give the maximum mobility and impetus to sea forces immediately on the outbreak of war.

If the peace disposition of these forces does not coincide with the actual theatre of war, when it comes, the first essential is to be able to concentrate them in that area ; inability to do this on the part of Russia was the greatest asset to Japanese naval strength. The concentration of a fleet in any particular waters brings with it the need for the establishment of bases in those waters for the maintenance and repair of the fleet. These bases must be acquired and developed, and much care is needed in choosing suitable ones, full consideration being given to such factors as position with regard to enemy bases, the length and difficulty of the lines of communication between the bases and home bases, and natural resources to give them offensive and defensive strength. The development of bases will entail building docks, and the erection of the necessary machine shops, the building up of large stocks of fuel, ammunition and stores, and the construction of all the works for the defences. If the lines of communication are very long and difficult between the home and overseas bases, an effort must be made to secure these lines of communication by the establishment of intermediate bases or strong points, such as, in our case, Gibraltar.

Other matters which must be attended to are a system to ensure the rapid mobilization of reserves of men and the organization of industry in order to increase the output of war material. The composition of a fleet and the evolution of correct types of warships will also effect the issue, for sea warfare demands a certain number of ships capable of keeping the sea under all conditions, while supremacy at sea will ultimately rest with the fleet which is able to destroy that of the enemy. A policy of submarine construction, or of torpedo craft, such as was advocated in France some twenty years ago by the *jeune école*, is the outcome of a purely defensive policy, and, as such, is entirely mistaken. The need for homogeneity, a principle flagrantly neglected by France from 1891 to 1906, must also be borne in mind, for a failure to observe this will produce a navy which is an imperfect tactical instrument, and which will give rise to endless complication in docking, repairing, storing and ammunitioning ships.

Efficiency, which breeds confidence, must be maintained at the highest pitch, and this, of course, applies to both personnel and materiel. An efficient system of command and staff which is imbued with the proper fighting spirit must be developed. Finally, the strategy of a navy has often in the past been hindered by an ignorant and exacting public ; the only way to overcome this is to educate the people of the country in the elements of sea power.

All these things are as true for the enemy as for ourselves, and one of the most important tasks of the Naval Staff in time of peace is to



study the preparations and defences of any possible enemy of the future, and to try to discover any weak places exposed by faulty or incomplete preparation on his part.

Lastly, we are brought to the consideration of war strategy. Obviously, *decision by battle cannot at once be sought by the weaker power.* It must be expected that the stronger will hasten to meet and destroy him before he is able to inflict any injury, and the weaker power would be courting disaster by doing exactly what his enemy would most wish him to do. At the same time the strategy of the weaker must not be to avoid battle at all cost as this would lead to his being hemmed in completely, which is only one step short of confession of defeat. The immediate object of the weaker power must be to secure conditions favourable to himself for engaging the enemy.

He may be expected to adopt an active policy of offensive mine-laying and operations by submarines, torpedo craft and aircraft in an endeavour to reduce his enemy's material superiority. He will, doubtless, make every attempt by the use of these weapons to render close blockade, or even efficient observation by the enemy, impracticable. He ought to neglect no opportunity for raids upon the enemy's commerce, or even territory, for bombardments, feints and diversions, with a view to making his adversary divide his forces thereby securing a temporary superiority in a convenient locality. The weaker power has to bear in mind that offensive measures taken whenever opportunity offers are the surest means of obtaining the initiative, and the moral effect of even local successes may far outweigh any material results achieved.

By adopting an active policy of offensive defensive, he will often disconcert a more powerful adversary and thereby lower the latter's moral. It often happens that a strong Power has certain inherent weaknesses which an enterprising rival may be able to penetrate, if only temporarily. To take our own case, the Empire which we have to defend is of enormous extent and widely distributed, with numerous and very long lines of communication, demanding the establishment of bases and strategic points for their defence. The home country itself, the nerve centre of the whole Empire depends upon seaborne trade for the supply of food and raw materials.

In the heat and stress of war, the difficulty of adhering to those principles which alone can procure success, and of avoiding the obvious counter-moves provoked by every enemy activity which may rob us of the initiative, is very real. Careful preparation and indoctrination in times of peace will go a long way towards producing that determination and fixity of purpose which are so essential. It must be admitted that the risks for the weaker power are great, but war, of a necessity, entails risks, and the weaker power having more to gain, must be prepared to risk more.

## THE NATION IN RELATION TO ITS ARMED FORCES

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By COLONEL J. P. VILLIERS-STUART, C.B., D.S.O., O.B.E.

On Wednesday, 27th January, 1926, at 3 p.m.

LIEUT.-GENERAL SIR PHILIP CHETWODE, Bt., K.C.B., K.C.M.G., D.S.O.  
(G.O.C.-in-C., Aldershot Command), in the Chair.

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THE CHAIRMAN : Colonel Villiers-Stuart is going to lecture to us this afternoon on one or two special aspects of modern war, particularly with regard to the air.

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### LECTURE.

I PROPOSE to talk about some changes which, I think, have come about as the result of evolution in the world as well as of the Great War which we have recently traversed. To my mind a very important change has occurred in the situation of our nation in the world ; this being due to the possibility of aerial attack. That this is so, is pretty generally realised, but I suggest that certain of its effects are not so fully appreciated ; and to me these latter seem of such importance as to merit special consideration.

It seems to me that war, which is always changing in its methods, has practically completed, or perhaps I might rather say, has entered upon the completion of a cycle. What I mean is this. In the old, primitive days when one tribe made war on another, the entire tribe was intimately involved in the adventure. Even the women and children of the losers were either killed or enslaved, and so forth. Consequently, every member of a tribe took a keen and active interest in its armed forces. The consideration of war was not the preoccupation of the few, but of every adult. In other words, the armed forces and the nation were one.

As time went on and states grew larger, and as civilisation and communications developed, it was found more economical to pay specialists to undertake the protection of any country. These specialists, in the form of standing armies, could (in theory anyway) keep an enemy at a distance through their power of rapid mobilization, cohesion and skill-at-arms. Under the conditions of the period, the keeping of the

enemy at a distance by this method, when properly applied, was a matter of practical politics: and the success of this system led, by degrees, to the great prosperity of the nations which adopted it. The bulk of the population were enabled to give all their time to commerce and industry; they had no need to think of war. That was the concern of the monarch and his army. And it is from this origin that there sprang up the cleavage between the army and civilians which reached such an astonishing pitch everywhere just prior to the French Revolution.

From the French Revolution originated the conception of a "nation in arms," and we next see a nation conducting war against monarchs and their armies—with what result you know. That, I think, was the beginning of the completion of that cycle of war. France had gone a great way, though by no means entirely, towards employing the whole national strength for war. And so she had in effect reverted to the primitive conception of a *whole tribe* making war. It was a momentous step, since it embraced a truth which even to this day numbers of people do not realise: or realising, they forget it as they speak of it. I mean, that it is ultimately the nation, and only the nation, that can prosecute war. Its armed forces, even its government, are merely instruments.

In the Napoleonic period the Spanish armies ceased to exist. But Spain was never really conquered. Again, the impulse that ended in the defeat of Napoleon in 1814 came entirely from the national feeling which burst forth in Germany. England at this period seems at first sight to offer an example contrary to the principle I have stated. Our effort might perhaps be described as essentially a governmental as opposed to a national one. But I think the only reason why Napoleon did not conquer England was that we were surrounded by water, and that we possessed a fleet which was more nearly "national" in its entity than did any other nation. Secondly, if we did not participate on land to the extent others did, still, the nation was very genuinely afraid of the Napoleonic menace, and stood firm behind the Government: as witness the Volunteer movement. Only—I would ask you to mark one point regarding the Volunteer movement of Napoleonic days. The principles of war surely show that it is best to defeat your enemy by employing adequate force on his ground, not your own, and that as quickly as possible. Well, here we find a case of well understood national danger. Volunteers were forthcoming in large numbers for *home defence*. Men for the expeditionary force were not so easily come by. That constitutes a matter for serious thought.

The system of universal service which survived on the continent as a result of the Napoleonic wars closed the breach between civil and military life in the nations which adopted it. We, of course, did not, and for definite reasons. So, as a result, the gulf between civilian and soldier remained. But the Great War brought an extension of the "nation in arms" conception. All the participants were "harnessed

industrially" to the national cause, and for the first time for many centuries we ourselves had to use conscription to maintain our armed forces. The huge number of men who joined the services with us, whether voluntarily or by conscription, must eventually have gone far towards bridging the gulf for a time. But four years is but a short span. Universal service was only an episode with us. The influx of the civil population into the Army came to be more a case of temporarily swamping our customs than of permanently bridging the gulf; so the causes of cleavage remain.

We are now exposed to attack, on an increasing scale, in our own country—by air. Such attacks, if they materialize, will take effect to a very great extent on people who, up to date, have been considered immune as non-combatants. Whether or not it will be politic for an enemy to make such attacks is not a matter that is for the moment at issue; this must depend on many other factors. But the truth remains that such attacks can be made, probably will be made, and cannot by any means, at present known or likely to be discovered, be entirely guarded against.

So there is my cycle.

Not only must the whole nation now take part in war industrially, but even its women and children are once more liable, as in primitive days, to sudden attack, death and mutilation. And I think, too, under relatively far more trying conditions than in the case of the old wars. In those days, the misery was soon over, one way or the other. Now, the menace may be constant—for months or years.

Again, land and sea warfare are still with us as well as hostilities in the air. Here, too, the principle of fighting your enemy outside your own country remains as true as ever. And so, our non-combatants may have to suffer the misery of severe attacks at a time when their "natural protectors" are far away. For the bulk of our fighting services might well be overseas.

Into the question of the best form of active defence against air attack I do not propose to enter. There are, I believe, some who argue that the days of armies are over and that the air will be paramount in the next war. It is only necessary to carry such an argument to its logical conclusion to break it down. Assume a country that possesses a powerful air force, but no army and not even armed police. Next assume an enemy with the weakest of air forces, but with an army and some national determination. It is only a matter of time till the army marches up to the opposing aerodromes and captures them. But there is more in it than that. If one considers the radius of action of present day mechanical transport in relation to the radius of aircraft, it is clear that there exists a distinct possibility (as long as flanks exist) of mechanical columns threatening and hustling aerodromes. In other

words, land warfare is one answer to air warfare, and, as a corollary, we might possibly have to put armies on the continent again some day.

Now I submit that a nation maintains its armed forces primarily and emphatically to obtain protection for itself. It seems to be an unavoidable conclusion that the appearance, at least, of a lack of adequate protection will be a feature of the next war, since it is admitted that it is, generally speaking, impossible to prevent aircraft from coming over a specified target. And this will occur in the case of a people, perhaps none too patient, with no traditions of war in their own country behind them, and little in touch with any conception of war. The ultimate result is difficult to estimate. Zeppelins proved good recruiters. But their attacks were infrequent and unsuccessful. The air raids towards the end of the war were certainly not without effect on the public. Yet their scope and the destruction they caused was very limited. Moreover, the nation had then undergone some three years of war and was more or less seasoned. In the next war one can only assume that the attacks will be sudden and immediate, and that there will be no probationary period. Anyhow, if a measure of panic and outcry arises, I am convinced of one thing; this is that it will not be stilled in a nation such as ours, when the trouble comes, by a few strategic platitudes, uttered by a harassed Minister, such as "concentration at the right time and place."

As regards the fighting Services also, the strain of war is undoubtedly greater now than formerly, because danger is more than twice as incessant. A relief from menace of danger is becoming increasingly difficult to attain, and, to this must be added, in future, anxiety for the welfare of those on whose behalf the men in the combatant Services are fighting.

It seems to me then, that we are faced with all the primitive elements of war, and that at present we are virtually organized to oppose thereto only the mediæval system of monarchical armed forces. It is not quite that, but it is near it. I suggest these two conclusions:—

- (i) The return to primitive conditions imposes a greater strain on the moral of both the nation and of its armed forces;
- (ii) The fusion of the nation and its armed forces is necessary to the successful prosecution of war under such conditions. If war is going to touch the heart of a nation, then that entire nation must be imbued with a true conception of war.

These two points are intimately connected.

How are we going to deal with these two things? I will consider moral first, and I propose to deal only with the maintenance of moral among the civil population. Of course, the best way to achieve this would be to keep the enemy aircraft at such a distance that there can be no attack. But, if it be true that to do so is an impossibility over



the whole country within hostile air radius, then the civil population must perforce remain exposed to a severe strain on its moral. Consider the probable course of events. An enemy attacking a town by air will doubtless drop high explosive bombs, and also very probably gas, either in bombs or by spraying. And, of course, the most difficult problem is the protection of the population in face of an aerial gas attack. In speaking of it, I am ignoring entirely *active* protective measures such as guns and aeroplanes, and confining myself to what are passive and so really subsidiary measures. The more you consider this problem, so it seems to me, the more it becomes clear that efficient arrangements are impossible without adequate preparation and organization—and both would take years to evolve even if we embarked thereon at once.

"Preparation" implies that all concerned, i.e., the civil population (or "victims") should know what they may expect, and know how to act when it comes.

"Organization" that those who are to take executive action (e.g., certain civil authorities and specially enrolled assistants such as special constables) should know their duties and be equipped to carry them out.

Now, if you will for a moment imagine an air attack on any town you like, how is control of the population and avoidance of panic to be prevented? Our country is now organized on an essentially municipal basis. Control can, therefore, only be organized on such a basis, subject to military supervision. But, nothing can be done without co-ordination of effort. Civil and military elements can only work together satisfactorily when their spheres of duty and responsibilities are clearly defined. An "Emergency Act" (to be kept well up-to-date till required for its application, of course) is therefore essential.

Now, I argue that, since knowledge is essential to co-operation, and since air attacks (with or without gas) are not only a possibility but a certainty, the time has arrived to come out into the open over this question, and to organize defensive measures on municipal lines. To do so, the nation must be educated as to what air attack will mean. I do not mean by "educate" that we should indulge in violent propaganda. Such action would probably begin by causing panic and antagonism, and end by causing apathy. What I have in view is, that Government should take certain selected municipal authorities into their confidence, that schemes should be worked out, and gradually evolved for all places within enemy air radius. Schemes would be kept confidential, but all papers, stores and so on would be kept ready for immediate issue once the "precautionary period" is put into force, so that the population would know how to act.



Some of the main points which need consideration are :

(i) *Security from damage by missiles and prevention of blocking communications.* Both these are best secured by inducing the population to stay in their houses.

(ii) *Security in houses* is best secured in lower rooms against H.E. splinters, or in the case of gas, by making a room or rooms gas-tight, and staying there. Given warning, it is not a difficult task, and it is really about the only means to obtain security. A general issue of masks is hardly practical politics, would in many cases be useless because they would be used in the wrong way, and, in any case, would not help in the case of small children. Moreover, a mask is only a partial protection against a type of "mustard" gas.

(iii) *Preservation of Food Supplies.* This concerns especially articles like milk for children ; there arises the possible issue of tinned milk. All open food supplies are liable to contamination.

(iv) *Organization of Medical Assistance.* At present our system of medical assistance takes the form largely of arrangement between doctor and patient direct. It is not an area organization, and the latter is obviously necessary in the case under consideration. Provision of extra hospital accommodation.

(v) *Provision for the expansion of Fire-extinguishing Appliances.* Existing resources will seldom suffice.

(vi) *Provision of Anti-Gas Stores* such as chloride of lime and water, for dealing with concentration of "mustard" gas. Circulation of instructions for dealing with "mustard" burns.

(vii) *Provision of means of Inter-communication.* Telephones and such systems will soon go. An improvised corps of "runners" will be needed ; motor cyclists, cyclists, boy scouts, and so on.

(viii) *Control of Movement.* It is clear that the less movement there is, the less will be the confusion and the greater the safety. Local police will seldom suffice, and special constables will be needed. Then, "mustard" gas raises difficult problems as regards movement. A person whose clothes have been splashed with mustard, touching another, infects him also, or would infect a railway carriage, and so on. Consequently, refugees from the attacked town are liable to spread infection wherever they go, and to increase the "panic" area far beyond its actual bounds. So it seems that something in the nature of a cordon will be necessary on the edge of an infected area to prevent movement out of it, and that movement out of it should only be permitted to certain definite localities, organized to receive refugees.

(ix) *Provision of a central pool of Gas Experts* who can be sent to attacked areas to assist during the emergency, and to advise when precautions can again be relaxed.

It is clear, I think, that any such organization as the above would take considerable thinking out locally. It would involve the enrolment and instruction of a considerable body of civilians, and that those civilians must be equipped and taught to use their equipment, ready for the gas danger period. It would also involve the printing and storage, labelled ready for immediate issue, of a considerable amount of notices, pamphlets, and so on. For instance, instructions for making a room gas-tight, the main points of which are very simple, namely the plugging of windows, door joints, cracks in floor, etc., and the drawing of all fires as they induce draught. The fact that soap and water are about the best remedy to apply to a mustard splash, and so on. All quite simple things. But the point is that the public will *not* know about them—unless they are told.

One hears it said, at times, that regular refuges should be constructed where the population might find safety in case of bombardment. Possibly, and to a limited extent, such action may be possible. But I am quite certain that it is utterly impossible on any general scale. The cost would frankly be prohibitive. The line to pursue is that of making the best use of existing resources.

It stands out to my mind, that though chaos is not too strong a word to apply to the effect of a heavy air attack where no organization to deal with it is present, yet it can be reduced to a normal horror of war by reasonable arrangements.

To come now to my second point, namely, that a fusion of the nation and its armed forces is essential under present conditions. How do we stand to-day as a nation? For the moment we have some conception of war—of war *at a distance*. But that state, even, is passing, and we shall again become a nation divorced from all conceptions of war, unless the fighting Services can keep them alive. For us, the answer does not lie in universal service, as I see it. Our sea barrier has decreased in efficiency, but it has only decreased—not ceased. The day has not yet come when we can be invaded, so as to make conquest possible, without recourse to ships. However desirable universal service may be from a purely military point of view, its necessity, as against economic arguments, cannot at present be proved. As a nation then, we remain debarred from the channel of education in war which our potential enemies enjoy.

The burden of bringing about the military education of the nation is thus thrown on to a very limited number—on our present armed forces. For them this task is too great unless they receive assistance. That assistance I believe to be ready to hand if we like to pick it up: it is to be found in this menace from the air.

I argue this way: the more local and personal becomes the defence of a man's interests, as, for example, the defence of his own house, the

more ready he is to acknowledge his own personal obligation for that defence. Now the essence of an air raid is that it is liable to affect personal interests directly; that is, incidentally, one of the most potent weapons in the attack on moral. The obligation on the householder to take his share in defence is, therefore, very cogent. Working from that, a municipal interest in defence should not be hard to achieve. Indeed I have very good reason to believe that it would be warmly taken up.

It seems to me that in principle (and except for certain points of strategic importance) local defence against hostile air attack should be the responsibility of the nation itself, working through some form of territorial organization. A long time must elapse, of course, before any *active* form of defence could be so undertaken, but it should be, to my mind, the logical outcome of the "passive" organization which I have been talking about.

Once the personal, domestic, side of the affair has been grasped by the nation, it will begin to think. Once it begins to think, it will demand knowledge, not push it aside. And so the task of the Services in educating the nation becomes possible. Moreover, if the nation be driven to think, it is not unlikely that it will eventually demand and—what is more—obtain very much better protective measures, than it would ever receive under purely governmental auspices. The Government must follow the national will, but the nation, not realising the danger, is, at present, willing to subscribe to any economy.

But what I am certain of is this: at present we are not organized to meet air raids. The nation is trusting the Services to carry out their primary duty (for which it pays them) of protecting it. If air raids come under existing conditions, there will undoubtedly be an outcry. It will be directed against the unfortunate Government of the day, no doubt, but it will be directed very strongly against the Services, too. In any case, I am convinced that our Service leaders will be faced with a problem of dealing with the enemy on the one hand, while endeavouring to appease public opinion at home on the other, to an extent to which there has never yet been a parallel. And I am unable to see the solution, unless it be, as I say, that the nation should be brought to grasp the necessity for shouldering the burden of self-defence in face of air attack.

The whole question seems to me to be vital for the nation, and not less so (in a different way) for the Services. And, since no one is likely to raise the matter except the Services, I suggest that they would be well advised to do so. Because the next war is going to touch us in our homes—the last time this occurred from foreign attack was in 1066—the nation is going to take a far keener interest in the quality of the protection afforded it than it has hitherto done. One can contemplate

losses, reverses, and the destruction of allied property with true phlegm—at a distance: but not so when it comes too near home.

Again, as regards a fusion of the Services and nation in ordinary life, several points arise, I think. The nation will always be slow to make a move towards the Services, because it does not see the need to do so. Therefore it is for the Services to take the first step. Now to what extent are we, as officers, in touch with civil life and all its problems? Do we, generally, realise at all the struggle for existence that is going on round us? And it is a struggle that is likely to increase rather than decrease, for the population of the civilised world is on the increase. We read a lot about unemployment in the labour world. But there are thousands of others, too, just as well-educated as we are, who can get no employment. Someone will tell you with joy that he has secured a two-years' job. The fact that it ends in two short years hardly matters to him. He knows what the struggle for existence is, and he is at least employed for the moment.

Most of us know comparatively little of civil life, I think. Except amongst our own small circle of friends we do not mix in it much. If we join a club, it is generally a Service Club, where we meet our own kind. We certainly dine out at civilian houses, but it always strikes me as curious how seldom you ever see a civilian asked to mess. Yet many of them would prize the honour highly. So it cannot be denied, I think, that on the whole we are something of a caste apart. Heaven knows I am not presuming to criticize the standpoint of the British officer. I am merely pointing to what I believe to be a general statement of fact, and arguing that it must exercise some influence on the tie between the Services and the nation. And I believe that the more we know of civil life, in all its grades, and of the struggle for existence the closer will that tie become. You cannot hope for counter-sympathy without extending sympathy.

As regards our rank and file, I come to even more delicate ground. For centuries now and, generally speaking, always, I think, we have led Europe in our system of discipline. I hope and believe that we always shall. But any good existing system is apt to engender a feeling of satisfaction and complacency, and I suggest that the subject is one on which an eye should be kept. I do not for one moment mean to suggest that the need for discipline in the sense of subordination of will, instant obedience, correct and accurate drill, and all those things which lead to control should, or ever can be considered superfluous. They are essentials. But, I suggest, that the mentality of the nation has changed, and is changing. All grades of society now ask "why?" A system of discipline must, I think, conform as closely as is reasonable to the mentality of its age. And in some ways perhaps, ours does not. The barrack wall is still a feature of some of our stations—the symbol of a barrier. And am I going too far if I say that one still occasionally

sees the N.C.O. in charge of the single fatigue man with the wheelbarrow? Again, there is the apparently and, perhaps in some cases actually, unnecessary sentry, too. Men must wear uniform at normal times and never have a chance of ceasing to be responsible for their unit's reputation. Yet in cases where men have been permitted to wear plain clothes I believe the results have been wonderfully good.

Further, if it be true that in the next war initiative and self-reliance on the part of the individual are to count more than ever before—and there is little doubt of it—ought not our aim to be to cultivate both? We are doing all we can for education. But education *per se* does not form character. It is the shouldering of responsibility which does that.

In peace our men live in barracks, under a supervising eye, and all in a confined area. In war, in Europe, they billeted often over an extensive area, and the peace training becomes the opposite of war practice: the unit feels rather lost at first. I do not for a moment mean that barracks should be done away with. Soldiers need *some* barrack life at least to make them soldiers: you can hardly replace barracks by anything else on the score of expense alone. And one must never forget, of course, that, in aiming at a fusion of the nation and its armed forces, you do not want the two to become intimate to a dangerous degree. A little unfamiliarity certainly breeds respect. Still, there are certain lines on which we can, I think, learn a good deal from some good industrial concerns. Some features of the railway discipline are wholly excellent. The men are held responsible, and shoulder the responsibility too, for very important tasks and that without constant supervision. Isn't that rather what we want to aim at in our preparation for the next war? Perhaps we could blend the *best* of modern military and civil discipline? My whole contention really is only this—for, as I said before, the subject is an intensely intricate one, and I have only treated it very generally—that, if a fusion of the two lives is to be kept in view, military life should differ from civil life as little as possible, and only by the imposition of such restrictions as tend directly to military efficiency.

I will now suggest something in conclusion. We have read of our forces mobilising without preparation. We have seen them prepared to mobilise, and mobilise effectively. We have read of German preparedness and of French unreadiness in 1870. We have seen our own nation slowly mobilise itself under conditions of safety which can hardly recur. But we have yet to see mobilisation of our national moral for attack on our homes. Are we prepared for it?

#### DISCUSSION.

THE CHAIRMAN: It is my duty to invite anybody who wishes to take part in the discussion to signify their wish. We have senior officers here of the Navy, Army and Air Force, and perhaps one of them would like to open the discussion.



AIR-COMMODORE E. R. LUDLOW HEWITT: All I can say, Sir, is that I think the lecture has been a most interesting one, and it is 'absolutely uncontroversial'; there is no point that the lecturer raised that I think any of us who are familiar with the potentialities of aircraft attack would attempt to contradict.

#### UNITY OF PURPOSE BETWEEN THE SERVICES.

REAR-ADMIRAL W. H. D. BOYLE: I think that what the Air-Commodore has just said must be the opinion of everybody present. I would add a further observation. The lecturer spoke of co-ordination between the Services and the nation. Now, if we were to start on the lines the lecturer indicates, we know exactly what would happen—there would be an outburst about "the danger of the air." We saw that only a little time ago, when the Admiralty naturally wanted more cruisers. But the nation said "scrap the cruisers!" Yet they are our best protection against air raids from the Continent. Unless the Services co-ordinate more and come to some agreement as to what they want, what can be done? We shall always be at a sort of cross purposes. When one Service says it wants a thing and knows it will be backed up by the other two, the movement must gain in strength. Before we start trying to educate the nation as to how to be prepared, the three Services should be prepared to say what they want; and when one Service does make a demand, it should know that the other two Services will agree with that demand. Nothing will more weaken the trust of the country in the belief that proper precautions are being taken than to see that the Services are not pulling the same way.

COLONEL VILLIERS-STUART: The idea of supporting the organization that I had in mind was not the desire to make a big thing of it, but only to find out confidentially and quietly in a few large towns how the thing would be accepted. It would really be an investigation to start with; if it were not acceptable, it would be discontinued.

#### THE TERRITORIAL FORCES AS A CONNECTING LINK.

LIEUT.-COLONEL JOHN BROWN: I should like to add, as a kind of half-and-half man between the Army and the civilian, being a Territorial, that the subject the lecturer has mentioned about co-operation between the nation and the armed forces will in the next few years, have to be taken into serious consideration through the agency of the Territorial Army. When the Territorial Forces are going well and strong, they form a link between the regular soldier and sailor on the one hand and the pure civilian on the other. The Territorial Army and Air Force in their own areas can be missionaries amongst the civil population in teaching the true importance of our Defence Forces. If, then, the Territorials are treated seriously and are plainly told firstly what their responsibilities may be, and secondly why they are wanted, a good deal can be done towards making the civilian population realize what the fighting forces are doing. What we do *not* need are posters proclaiming "Join the Territorials and have a good holiday by the sea," and so forth. Men want to know why they should join the Territorials; they want to know whether they can be of some use in the case of necessity, and they also desire to find out what their responsibilities are. It is a very good sign to see that the leading military authorities desire to get into closer touch and establish some form of co-operation with civilians; and I am sure the civilians on their side will welcome any close association with the leaders of our defence forces. (Applause.)

## THE CHAIRMAN.

As nobody else has anything to say, it is now my duty to sum up the lecture and make one or two short observations of my own. It seems to me that what the lecturer has said may be summarised in the form of the questions he has put before us. One question is: Will the moral of the nation stand up to what we all agree might be a very terrible and high test? Then he asked us whether we think that the nation, especially in the South of England, which would be exposed to such great attacks, really understand their danger. Lastly, he asks us whether it is possible now to take steps to guard against the worst of that danger. He considers that certain preparatory steps might be taken on municipal lines; he thinks we should take more trouble in showing the civilian population what the dangers are, how it is actually their duty to take part in the defence of their homes. In order to do that he desires to see a closer fusion between the Services and the civilian population. He was rather inclined to say, I think, that we in the Forces still formed a separate class from the civilian.

I will take his points in order.

There is no doubt that such an attack as he has foreshadowed would be ghastly in the extreme—it is impossible to exaggerate it; but I think we have to remember that, although London is the greatest aggregation of people in the whole world and constitutes the main food supply of the country as well as the seat of government, yet there are some points against a very heavy air attack being made upon us which may count a little. I do not believe for one minute that the moral of the nation would give way even to a bad air attack on London. The area within a line drawn from the Wash to Plymouth forms approximately that part of the country which is within range of air-raid from the Continent, while the remaining parts of the country know very little of what true air raids really mean. Now, such attacks as the lecturer has in mind must rouse the whole country to anger, and the enemy would not add to his chances of ultimate success by rousing a country in that way.

There is another factor. Even the most enthusiastic protagonist of air attack knows that air attack and air bombing, in order to be successful, must be intensive and continuous; everyone who knows anything about even the modern high-class aeroplane knows that it is extremely difficult to maintain a daily effective strength of even 50% with bombers. It decreases rapidly day by day. The engines of such machines have to be taken down and completely overhauled. Their actual life of bombing, from hour to hour and day to day, is very much less than any other form of instrument of war. Consequently the number of planes that would be available to bomb London to-morrow would decrease very rapidly even in the first week. Is not that so? And this does not take into consideration the casualties that they would incur in coming over here, either from crashes or storms or engine failures; neither does it reckon the casualties that we might inflict upon them either from our ground defences or from our own attacking aeroplanes. Bombers, moreover, in practice, only work at night and that limits them a little bit. A bomber is a very heavy machine and a very vulnerable one, and, speaking under correction, I think a fleet of bombers has to be protected by fighters to a certain extent. I think Air-Commodore Hewitt can answer that question.

AIR-COMMODORE HEWITT: Not necessarily now and they can operate by day.

● THE CHAIRMAN : But they are much more vulnerable to our fighting machines.

AIR-COMMODORE HEWITT : They would be vulnerable, of course, but they would be able to operate by day.

THE CHAIRMAN : They used only to operate by night.

AIR-COMMODORE HEWITT : That is so, but not now.

THE CHAIRMAN : Then I must admit that they can operate by day. But there is yet another view. A weaker Air Force is not quite in the same position as a weaker Army or a weaker Navy. A weaker Army or a weaker Navy must sooner or later meet the stronger ground force or sea force of the enemy. It is not in the least necessary for the weaker Air Force to meet the stronger Air Force if it wishes to take the offensive ; it can take the offensive by another route, because it is in an entirely different element from land and water, so it might, quite easily by means of good arrangement, reach its target without ever meeting a stronger force such as the Army and Navy might have to do. We could thus, at any rate, always retaliate. Is not that some form of defence ?

There also exists a possibility of reprisals at sea ; we still have—in Europe at any rate—complete command of the sea, and I believe any nation would think twice before attacking us by air, if it knew that we could not only take reprisals in the air, but also retaliate seriously by sea. We should be able to say to them " For every bomb you drop in London our fleet will drop a hundred heavy shells on your ports." I only mention these facts so as to show that everything is not against us in these matters.

One more point I should like to mention with regard to aeroplanes. If any enemy chose to concentrate his attacks against London and the South Coast, it would mean that he must practically abandon all idea of interfering with hostile troops overseas, and also give up any thought of interrupting our mobilization and the movement and passage of troops to the Continent. It would not be possible to carry on both tasks to any extent, unless he was immensely strong. That means, as the lecturer stated, that while the enemy is bombing London, our forces will be approaching his aerodromes with far greater rapidity than has been ever dreamed of. It is possible to quote what the French can now do in that line ; they can put a whole division of men, guns and supplies upon lorries and move them a hundred miles in one night. Such an operation by its speed must soon prove effective. It could only cause an enemy rapidly to withdraw his aeroplanes from bombing women and children and thereby trying to influence the moral of the country, in order to set about protecting his own aerodromes.

With regard to the steps that should be taken as to aerial defence, we, as serving soldiers, stand on very delicate ground. Steps are being taken in this direction under the lead of the Cabinet and the Committee of Imperial Defence ; that I state from personal knowledge. But, as no public announcement has yet been made by the Government in the matter, it is impossible for us regular soldiers to criticize the Cabinet or the Imperial Defence Committee for any possible acts of omission or commission. All such preparation, I can assure you, is an extremely difficult matter ; it is very complicated and much of it must of necessity be kept secret. Still, I trust, and in fact I know, that before many years are over we shall be in a very much better position than we are now.

The lecturer has said that we should press on the civil population the desirability and importance of their taking part in their own defence. You cannot blame the Government or the War Office or the Admiralty or the Air Force for not doing that. They have invited them to do so. They have already made a commencement with Territorial air squadrons and have announced that they are going to work up to no less than fifty-two as soon as the money permits. They have made a very good beginning in that way, and I wish I could say the response of the civil population has been as good. It has not by any means. Where I differ from the lecturer is that I cannot for the life of me see how we in the Services are going to increase that knowledge among the civil population. How can we? Amongst the population there are old soldiers of great experience and old airmen and old sailors who know what war is like, but why should closer connection between the Regular Forces and the population increase the public's knowledge of the horrors and realities of war? Most of our soldiers are young men, of necessity, and they know no more and no less than the civil population do about war. I am all for the territorial principle, but I cannot see that any closer fusion between the Regular Services and the population is going to bring about what we want. What closer fusion could we have than we have now? I disagree with the lecturer in that I do not consider that the men in the Forces are in the very least degree a class apart. We are, as Kipling said, "ordinary men in barracks like you." We are ordinary citizens just the same as the ordinary man in the street, removed for a few years from the danger and anxiety of seeking for employment. You have only to see, as I saw, in the manoeuvres last year the amazing difference in the attitude of civilians to soldiers from what it was when I joined the Army. The weather was disgusting and there was not a man or an officer who was not under cover in the evening; shelter had been given them voluntarily in every cottage and house in the district. That surely constitutes a close touch with the civil population! The people know all about us; they like us, and they like all the Services. With regard to discipline, I absolutely deny that it is irksome now. I myself at Aldershot have got rid of every useless guard possible. There is no such thing now. Certain guards are always a good thing, as old soldiers know; they smarten up a man occasionally. Every non-commissioned officer can wear plain clothes on furlough and a commanding officer has every right, and he uses it too, to give every soldier, who wishes it, a permit to wear plain clothes; many of them do so. This is generally reserved as a reward for first-class shots, but the Colonel has the power to write out a permission for any man to wear plain clothes.

That is all I have to say, except to conclude by moving a vote of thanks to the lecturer.

The motion was carried with acclamation.

COLONEL VILLIERS-STUART: I thank you.

VICE-ADMIRAL H. W. RICHMOND, proposed a vote of thanks to the Chairman, which was carried by acclamation. The meeting then terminated.

## EVOLUTION OF THE MODERN RANGEFINDER

By MAJOR K. F. DUNSTERVILLE, D.S.O., R.A.

THE modern single-observer rangefinder is one of the most delicate measuring instruments known to science. It is at the same time one of the most robust. Few laboratory instruments of a corresponding order of accuracy would withstand similar rough usage tests. At present it seems to have reached the limit of improvement. Yet even so the cry is for still greater accuracy.

Let us see what has been done up to date. Rangefinding in the sense of surveying is a very ancient art. It is based on the measurement of triangles. Briefly, it consists in first laying out very carefully a base line and accurately measuring its length. The positions of different objects with respect to this base-line are then found by measuring the angles to them from each end of the base-line by means of theodolites accurately set up at those two ends. Mathematical computation does the rest. Requirements in personnel are comparatively large, conspicuous positions for the theodolites are necessary, and a certain freedom of movement is an advantage. None of these considerations meet military requirements.

When artillery and small-arms began to develop range and accuracy, a demand naturally arose for some means of determining the required range in a far more rapid, simple, and continuous manner; to the soldier, in addition, concealment gradually became a vital factor.

Fortunately, the rangefinder had already started its development. The clue was possibly given by the surveyor himself when measuring short distances, but it is also probable that he started the rangefinder purely as an aid to survey.

Certain instruments with special applications may first be disposed of. Coast-fort rangefinders, as distinct from field and ship instruments, employ either a very long base up to 6,000 yards with an angle measuring instrument at each end, or a single instrument whose base is its height above sea level. The first gives its information through the medium of an enlarged "Field Plotter," while the second gives the answer direct. Further improvements in these can only be in detail. Note, however, that they can give both the range and the bearing of the target, and that continuously. They require to be set up very accurately on rigid supports and are not portable.



Now what has been done to meet the exacting requirements of the soldier in the field and the sailor in his ship? The first requires a light, portable, inconspicuous instrument, capable of carriage and use by one man, an instrument of the highest possible accuracy, unaffected by climatic conditions, and capable of a moderate amount of rough handling without detriment to its accuracy and adjustments. The sailor's requirements are in general similar, but he is not limited, within reason, by weight; portability does not influence him, and he can allow an extra man or two to supply the necessary power to deal with the increased weight. But the instrument should, if possible, be proof against continuous vibration from his engines. He also requires more accuracy, particularly as he is more dependent on his rangefinder than is the soldier.

These are the modern requirements, which have naturally grown more exacting as science and manufacture advanced.

The process began by simplifying the triangle. One of the angles at the base is made a definite right angle and the base is reduced until a very narrow wedge is produced. Then, either the base may be fixed and the other base-angle made variable, or that angle may be fixed at something a little less than a right-angle and the base made variable. Although it is nearly always this second base angle which governs the answer, it is more usual to consider the apex angle which is, of course, always complementary to it.

The first step towards the desired end was apparently an attempt to mount two theodolites on a bar, thus employing a constant base. The next step was to substitute two telescopes parallel to each other and at right-angles to the bar. One was aligned on the object and then the displacement of the object from the centre of the other was measured by a micrometer, whence the range could be calculated. The next step was to observe the object from both ends of the base at the same time. This was done by Magellan in 1775. He fixed a telescope at one end of an extensible bar and at right angles to it. A mirror at 45 degrees was placed partially in front of the telescope while another nearly parallel to it was mounted at the other end of the bar. To obtain coincidence the length of the bar was adjusted, when its length was a measure of the range. He thus introduced the constant apex angle, variable base, one-man, coincidence rangefinder.

The next step was made by General Clarke in 1858. His device resembled the modern instrument and introduced the forerunner of the "Centre Prism Combination." The main tube had a 45 degree mirror at each end and crossed mirrors in the centre with a telescope attached. The whole was thus in the form of a T. It did not, however, employ the coincidence principle, but relied on a micrometer to measure the parallax separation of the images.

We now come to the father of the short constant base coincidence rangefinder. This was invented by Adie in 1860. Its direct descendant was the Marindin, 1901. One of Adie's instruments of 3 feet base is in the Science Museum, South Kensington, and was used by H.M.S. "Triton" from 1885 to 1904 in the survey of the East coast of England. Adie employed right-angle prisms as end reflectors and the now familiar double telescope system with a common eyepiece. He rocked one telescope about a pivot near its end reflector by means of a reading micrometer. A reference table gave ranges from 100 to 2,000 yards. Marindin's, with modern improvements was much the same except that he, leaving the telescopic system alone, merely rocked the end right-angle prism, the micrometer screw being graduated directly in ranges.

In these instruments, except the Marindin, the dividing line between the fields was blurred, which did not make for ease or accuracy in judging exact coincidence.<sup>1</sup>

This brings us to our own modern rangefinder, the Barr and Stroud. It was invented in 1888 in response to an award offered by the Admiralty. The dividing line between the fields was sharp, which was a great advance from the point of view of the accuracy of the "cut," i.e., making coincidence of the images. This was done by substituting a clever combination of prisms for the crossed mirrors or right-angle prisms of Adie. Many patterns of these, producing different types of field, have been designed. The image in one half of the field is brought into coincidence with that in the other, or fixed, half by deflecting the rays back again by means of a thin prism, travelling between its object glass and the centre prism combination, until the images in the two halves coincide. The position of the thin prism depends on the apex or parallax angle to be neutralized. A scale suitably graduated in ranges and rigidly connected to the prism enables the range to be read direct. Back-lash is thus eliminated. The Barr and Stroud took some years to perfect. The main optical system consisting of the object glasses and centre prism combination, together with the thin translational prism, adjusters for "coincidence" and "halving," and astigmatizers, are carried by a rigid steel frame supported at two positions in its length in the main tube, which carries the end reflectors and eye-piece. The end reflectors are either pentagonal prisms or, in the larger sizes, pairs of mirrors arranged to perform the same functions. They are very carefully paired to give a combined reflection of 180 degrees. The importance of the pentagonal is that, within certain limits, it always bends any incident ray through a constant angle. The main tube itself is built up with an outer and inner tube. The whole is practically proof against small distortions produced by unequal heating or otherwise.

<sup>1</sup> For further details of these early rangefinders see article on Short Base Rangefinders in the Dictionary of Applied Physics.

Another method of deflecting the ray is to employ two prisms rotating in opposite directions instead of the sliding prism. These are placed near one end pentagonal in what is called the "parallel beam." This method is largely employed by the German makers. It has also been adopted, on account of its great length, in the largest of the type yet made, the 100 foot Barr and Stroud, photographs of which appeared in the public press about two years ago.

Large rangefinders contain certain adjuncts known as "internal adjusters" for use in setting the "infinity" adjustment when other means of doing so are not available.

Another principle, the stereoscopic, has also been developed. The first of these was invented by Forbes in 1891 and was taken out by him to the South African War. Two or three slightly differing methods exist. It was largely used by the Germans, but is believed to have been given up by them. This principle has always been regarded with the deepest suspicion in the British Services. Given equally expert operators there is little to choose from the point of view of accuracy between it and the coincidence method. But for ten expert coincidence range-takers only one can be found to compete successfully with the stereoscopic principle. Many people are unable to use the stereoscopic principle at all. A far more important point is that this stereoscopic sense is a very delicate one and very liable to derangement. The slightest fatigue or mental strain will throw it out completely. Even if very tired or frightened the coincidence man can make some attempt at a cut and is not likely to fail completely. At worst his accuracy may fall off to some extent.

Again another principle that has been tried is that of having the two halves of slightly different magnifications. This also works on the coincidence idea but has been given up.

Note that all these are automatic triangulators. They depend on the solution of a very narrow right-angled triangle with a fixed base. If  $A$  is the apex angle in radians,  $B$  the base and  $R$  the range, both in (say) yards, we have for the solution of the triangle, since  $A$  is small,

$$A = \frac{B}{R}$$

This gives rise to the formula,—

$$dA = -\frac{B}{R^2} dR \quad \text{or} \quad dR = -\frac{R^2}{B} dA$$

Or in ordinary language, the error  $dR$  in the range  $R$ , varies as the square of  $R$  for any given error  $dA$  in the apex angle  $A$ . The minus sign merely means that if  $A$  increases  $R$  decreases, and *vice versa*.

It is considered that the unaided eye can detect a lack of coincidence of the images caused by a variation of about 12 seconds of the apex

angle, i.e.,  $dA$  is usually taken as being about 12 seconds. The magnification of the telescopic system reduces this proportionately, so that, if we consider the larger instruments where the mean of the magnifications used is about 24, we can take  $dA$  equal to  $\frac{1}{2}$  second (0.000002424 of a radian). This is the angle that a halfpenny would subtend at 11,460 yards. Gunners will recognize the number. The perception of coincidence, or sense of symmetry, is one of the most delicate senses we possess. And we have called it in to our aid.

The amazing thing is that the instruments relying on this delicate sense can be shaken for long periods, as on horseback, or dropped, without going out of adjustment. Even the big ones have to pass bumping tests.

Having now our  $dA$  fixed for us, we naturally require to make  $dR$  as small as possible. We can only alter two factors. We can increase the magnification or the base or both. But magnification has reached its practical limits. The infantryman has decided that the 80 cm. (2 feet  $7\frac{1}{2}$  inches) size is the largest he can carry. The cavalryman favours the field artilleryman's one metre (3 feet  $2\frac{1}{2}$  inches) instrument. Ships and forts are not limited by weight. The big ships have decided that their limit is 30 feet, while, as has been said, a 100 foot fortress instrument is in existence.

It is interesting to compare these. Taking  $dA$  as  $\frac{1}{2}$  second, up to what ranges with the various instruments could the range be found with an average error not greater than 100 yards, and what would the ranges be if the error is reduced to 50 yards?

The following table is interesting :—

|                     |    |    |  | <i>Ranges for <math>dA = \frac{1}{2}</math> second.</i> |               |
|---------------------|----|----|--|---|---------------|
|                     |    |    |  | 100 Yards   | 50 Yards      |
| <i>Base Length.</i> |    |    |  | <i>error.</i>   | <i>error.</i> |
| 100 feet            | .. | .. |  | 37,000  | 9,250         |
| 30 "                | .. | .. |  | 20,300  | 5,075         |
| 15 "                | .. | .. |  | 14,350  | 3,575         |
| 9 "                 | .. | .. |  | 11,100  | 2,775         |

The case of the 1 metre and 80 cm. artillery and infantry instruments is rather different. Their magnifications are on the low side and possibly  $\frac{3}{4}$  second is the best they can do. This gives :—

|                     |    |    |  | <i>Ranges for <math>dA = \frac{3}{4}</math> second.</i> |               |
|---------------------|----|----|--|---|---------------|
|                     |    |    |  | 100 Yards   | 50 Yards      |
| <i>Base Length.</i> |    |    |  | <i>error.</i>   | <i>error.</i> |
| 1 Metre             | .. | .. |  | 5,600   | 1,400         |
| 80 cm.              | .. | .. |  | 4,900   | 1,225         |

It will be noticed that, for a given permissible error, when the permissible error is halved the range is reduced to a quarter, and that, if the base is increased, the range is only increased as the square root of the base.

There remains a very important off-shoot of the rangefinder. This is the height finder for the use of anti-aircraft guns. There are two general types. There is again the long base two observer type, which works on the Bennett-Pleydell principle. It has the same drawbacks in action as the long base coast-fort rangefinder to which it more or less corresponds. The chief of these is that of ensuring that both observers are laying on the same aeroplane. It is, however, used in special circumstances.

The other is a short-base "One man" instrument. It exists in both coincidence and stereoscopic types as before. Our own is the Barr and Stroud coincidence type. This firm also makes a stereoscopic one, of which another example is the Levallois, a French instrument.

All these are essentially rangefinders with height calculating mechanism attached. First the range is found and then multiplied mechanically by the sine of the Angle of Sight to give height. The actual range may be indicated as well. The formula is

$$H = R \sin S$$

where H is the height and S the Angle of Sight. The error in height for a given height is always the same whatever the range and corresponding angle of sight. Usually, however, the multiplying gear possesses certain limits as to angle of sight outside which it does not function satisfactorily.

In both the Barr and Stroud instruments, i.e., coincidence and stereoscopic, the mechanism for the conversion of range to height is a beautiful cam gear, which combines the movements of the translational prism for range and the rotational movement of the instrument in elevation for angle of sight logarithmically, so that the height of the target above the instrument may be read off a graduated disc. Another disc indicates the range.

There is also a further advantage that, once coincidence has been established, the gear moves the coincidence or stereoscopic element, as the case may be, in such a manner that, provided the target remains at a constant height, the setting and coincidence remain. If the coincidence goes out it at once shows that the target has changed height. The fact that the rapidly altering position does not necessarily throw out the coincidence is invaluable in the case of such fast moving objects as aeroplanes. This was not attained in the early height finders.

The above principles also hold good in the case of the Levallois stereoscopic instrument. In this instance the result is attained by a system of links solving a triangle: again the triangle.

The Levallois alters its stereoscopic effect by the use of two prisms in the place of the single translational prism of the coincidence rangefinder. One is fixed and the other movable. Great claims of enhancing the stereoscopic relief are made for this method, though on what scientific grounds is not clear. It will be interesting to see if the French adopt it, and whether the disadvantages of other stereoscopic rangefinders apply equally to this instrument or not. Certainly an aeroplane should provide



the best possible target for it, and further there is the advantage that the object has not to be kept on a definite dividing line. A slight wandering of the object about the field of view is a definite help to the stereoscopic instrument, whereas it is a distinct disadvantage in the case of the coincidence type. All height finders, so far, work from the horizontal and require to be kept levelled. Ship instruments, therefore, require extra stabilising gear.

This, then, is the present position as far as development goes. The modern rangefinder is a fixed base coincidence type, operated as to range by one man who sees that his target is intersected by a sharp line and that the range is instantly and continuously available. The instrument can be adapted to read height. It is uninfluenced to any appreciable extent by climatic changes or, within reason, by rough usage. It can be made in a variety of sizes. There seems to be little development in view along the present lines, except in detail, with the possible exception that the stereoscopic principle might prove useful for height finding. It may be noted from the tables given that increasing the base length of the 30 foot three-and-half times does not double the corresponding range limit. The practical limits of telescopic magnification have been reached. The figures for accuracy given above refer to easy conditions and trained operators. They can be exceeded by the very expert. Under less favourable conditions, such as mist, unstable platform and fast moving target, those figures would certainly be reduced, though careful training will do much to counteract this.

What is to be done in fog or at night? In the pre-war Siege Artillery Training Manual a method of locating hostile gun flashes was laid down. Its application to a moving target would be laborious and unsatisfactory.

There are certain other methods, not visual, of measuring a distance. There is, for example, the Admiralty Echo Depth-Sounding Machine which, in so far as it gives continuous readings with one operator, almost comes within our definition. But it only replaces and can only replace the lead, and is not in the least suited to gun control.

Then there is Sound-ranging, both aerial and sub-aqueous. They both require accurately surveyed listening posts and much delicate apparatus. Further, the target must condescend to make a suitable noise, or nothing can be done, and the processes are comparatively slow. The Americans have tried the sub-aqueous, but with results which do not promise useful application for many years to come.

Light rays fail us in the presence of fog and smoke. Heat rays seem to hold out no hopes. Wireless does not seem to be applicable. There remains a band of vibrations of which nothing is known. Does the answer lie here?

We are still measuring triangles visually. Has science any further improvements or new principles in her vast laboratories to reward the searcher after knowledge?

## AIRCRAFT CARRIERS IN A FLEET ACTION

By LIEUTENANT A. W. CLARKE, R.N.

THE addition to the fleet of a new type of warship, the aircraft carrier, has opened up a fresh problem in fleet tactics; in view of the very important duties aircraft may perform during an action and the limited number of carriers as yet at the disposal of the Commander-in-Chief, considerations for these ships safety must have an important bearing on the conduct of a battle.

Broadly speaking the loss of the aircraft themselves is of comparatively small importance, but the loss of a carrier is a serious matter. If the output of aeroplanes is up to war standards, it should be possible to replace any that are lost without undue delay, but the replacement of a carrier is a very different question. Apart from the length of time it takes to build or convert a ship suitable for launching and landing fleet aircraft, shipbuilding in war time will have calls of all natures and, if the conditions of the late war recur, even the construction of carriers may have to take second place to destroyers and other small craft necessary for the multifarious duties connected with the protection of shipping.

The Commander-in-Chief must, therefore, continually bear in mind that while his carriers are indispensable to the fleet they are also extremely vulnerable and cannot easily be replaced. At first glance the problem of protecting them would seem simple enough. Carriers are designed to have a high rate of speed,<sup>1</sup> and if they can attain some ten knots in excess of the speed of the battle-line there would appear, at first sight, to be no difficulty in keeping them in a position of safety relative to the enemy fleet. But it must be remembered that the enemy destroyers and cruisers will have a speed at least equal to our carriers, while the latter will not always be free to use their speed for the sole purpose of seeking the cover of the battle fleet.

In order to fly machines off and on, a definite wind speed over the deck is required. To obtain this in a flat calm it is only necessary for the carrier to steam at a sufficiently high rate of speed. Under these conditions her course can be entirely governed by the tactical situation and she will have little difficulty in remaining in a position of safety. Her speed will be adequate for avoiding attack by enemy

<sup>1</sup>This is not so at present with all, but future construction will undoubtedly be given the maximum speed possible.

craft of all types and her manœuvres will not seriously interrupt the flying service.

If there is any appreciable wind, however, her movements are likely to be considerably restricted, for, to perform the operations of flying off and on, she must steam either directly into or directly away from the wind. The latter, of course, can only be done with a very low wind force and by a carrier with a high speed, because the speed of the ship through the air must be such as will overcome the velocity of the following wind and, in addition, produce a wind speed over the deck sufficient for the flying service.

In most cases the weather conditions will be such that no planes can be despatched or received excepting with the carrier steaming head to wind, when the maintenance of her position relative to the battle fleet will be further handicapped by the fact that her speed must be varied according to the wind velocity at the moment of any particular flying operation. Thus it will become a difficult matter to forecast her position at any particular moment.

The operations of flying off and flying on must be considered separately. In flying off, the time during which the carrier is required to steam into the wind is small. The aircraft to be launched can all be ranged on the flying deck, or decks, previous to turning head to wind, and as soon as the ship is ready the machines are flown off in rapid succession.

Let it be assumed that the wind is from right astern of the fleet. It will take the carrier some five minutes to turn 180 degrees. It is then necessary for her to steam at 20 knots for, say, three minutes head to wind while flying off a flight of machines. She then turns again to regain station. In all, thirteen minutes has elapsed, during which time the fleet (at 20 knots) has proceeded 4.3 miles and the carrier has steamed one mile on the opposite course. To regain station the carrier has to make good 5.3 miles. Assuming she is able to develop a relative speed of 10 knots, this will take thirty-two minutes.

In the above case it was assumed that the wind was in the worst direction relative to the course of the fleet. Let us suppose, however, that the carrier was originally stationed well up with the advance forces. After her initial flying off she has dropped back to some position near the battle fleet. If the Commander-in-Chief now requires more aircraft from this same carrier, he must either wait until she has regained her station, accept another drop in her position, which will probably place her astern of the fleet and open to attack from enemy cruisers or destroyers disposed astern, or he must effect some drastic reduction in the fleet's speed.

Now let us assume that the wind is at right angles to the line of advance of the fleet. Allow two minutes for the turn into the wind, three minutes either out from or in towards the line of advance, and then three minutes for the turn back on to the course to regain station.

The distance now to be made good is just under three miles at a 10 knots relative speed. So it is seen that, even in this case eighteen minutes at high speed must elapse before the carrier is once more in station. She has, however, only dropped back roughly two and three-quarter miles from her original position, and she would have time to carry out another similar operation before falling astern of the fleet's protection.

Flying on presents a far greater loss in position under the conditions considered above. The time taken to fly on will vary according to the type of carrier and the facilities available for restowing machines. As a general rule, the landing deck must be cleared before the arrival of each successive machine. These intervals will necessitate the carrier maintaining her course for some eighteen minutes as against the three required for flying off. The drop in position under adverse wind direction is correspondingly very much greater and the maintenance of the carrier in a position of safety becomes doubtful.

The safety of carriers with the fleet depends on two things—their powers of self-protection, i.e., speed and armament, and their position relative to the battle fleet, in action. With regard to the first, speed and armament are, of course, a question of design. The ship herself is very vulnerable in that the hull presents a big target and the large stores of petrol, including that standing in the aircraft, make her more than ordinarily inflammable. Added to this very little damage is necessary to the flying deck to make it useless to aircraft. As regards armament it is not possible to carry anything more powerful than that of a cruiser. Designs have been suggested for a combined battleship and aircraft carrier, but such a type is not likely to materialise, for the result would be useful neither as the one nor the other. As a battleship, this hybrid would be unable to take her place in the battle-line owing to the necessity of flying off and on. As a carrier she would be hampered by the space occupied by turrets and, if attempts were made to fight her guns when she was working aircraft, the latter would be considerably disturbed by blast. Moreover, as speed is essential to the ship in her capacity as a carrier, it seems extremely doubtful whether all these requirements could be combined in a ship conforming to the Washington Treaty.

It is far more probable that development will be along the lines of high speed and improved facilities for handling aircraft, while the armament will be no more than one which will enable the ship to defend herself to some extent against small cruisers and destroyers.

Turning to the question of the position of carriers in the fleet while in cruising and battle order, we see that there can be no set position and every operation has to be considered separately; firstly in the light of the probable force and direction of the wind; secondly, from the point of view of the probable course of the fleet in cruising disposition, its direction of deployment and subsequent probable movements; lastly, with regard to the position and course of the enemy.

In studying the problem it must be borne in mind that the functions of a carrier are, broadly speaking, two-fold. She has to provide aircraft for reconnaissance during the approach and, subsequently, for observation of fire and for reporting movements of the enemy; she has also to be ready to launch torpedo and fighter aeroplanes. Of these two, the former duties are the most important because the fighting power of the whole fleet may be dependent on aeroplane observation whereas the second are, as yet, only auxiliary forms of attack and defence. So great has become the value and importance of aircraft reporting that in the near future, under favourable weather conditions, we may find it superseding the cruiser screen. Should this become possible, it will enable the cruisers to be concentrated before actual contact with the enemy, instead of keeping them spread until the last moment.

To maintain a continual supply of reconnaissance machines will necessitate very close co-operation between the carriers themselves. In fact a squadron of carriers is really a most important command. Each ship will probably have to fly off and on at least every two hours. It is essential, therefore, that the carriers should be so stationed relative to the main fleet that they will not drop astern of the battle fleet during the approach. They must also be clear of the line of advance so that their movements are not likely to hamper the course of the main fleet. This is the more important as the time of deployment draws near. If sufficient information is available they can be stationed so as to ensure that the enemy light forces will not at the outset make contact with them. The strategical plot, therefore, becomes of great importance and the carrier squadron must amend its position as the plot progresses so as to ensure that they do not come under fire of the enemy's main forces. It must be borne in mind that the carriers may get out of direct touch with the Commander-in-Chief, in which case they must take such action as appears necessary to remain in or regain safety without awaiting instructions. Finally, they must anticipate the direction of deployment of the battle fleet from their own strategical plot. It may be possible for the Commander-in-Chief to inform his advance forces of his intentions, but that this information will penetrate to all carriers cannot be relied upon.

It is essential that the carriers should not be left "in the air" after deployment and they must leave no doubt in the mind of the Commander-in-Chief that they are proceeding to their battle position in plenty of time before the deployment.

It may be the enemy's intention to allocate a portion of his light forces for the express purpose of attacking our carriers. In this case the latter must rely on units of their own fleet for protection and, abandoning flying for the time being, retreat under the protection of these protective forces.

In the case of the wind being in an adverse direction, an initial position on the disengaged beam of the battle cruisers appears best.



Here the carriers will be covered from attack by enemy craft crossing ahead of the battle-line and they can best afford to lose distance during their flying operations. The distance away from the line of advance of the battle-line is governed by the amount the carriers will increase or decrease this distance while operating, the limitation being, of course, that such operation must not bring her within gun range of the enemy fleet. At the same time they must keep sufficiently in touch with their own fleet to observe its movements and to be able to conform to them as soon as they are free to do so.

In the event of the Commander-in-Chief reversing the course of the fleet during the engagement, in view of a similar movement on the part of the enemy or massed torpedo attacks, it will probably be necessary to cease operating aircraft until a position of comparative security is again attained by the carriers. This possible fleet movement would be an argument in favour of stationing the carriers initially further back from the battle cruisers and nearer the battle fleet and, consequently, accepting the resultant shorter distance available for loss in operating aircraft under adverse wind conditions.

Generally speaking it must be the object of the Commander-in-Chief to save his carriers from contact with enemy forces by countering enemy movements against them; on the carriers' part it is their duty to ensure that the Commander-in-Chief's anxiety shall be a minimum.

It is difficult to lay down whether flying or the safety of the carriers themselves should be the first consideration. It has been seen that it will take considerably longer to fly the same number of machines *on* than to fly them off. Of these two operations flying off is the more important and, in regard to types of machines the provision of reconnaissance and spotting aeroplanes should come first. Nevertheless, there is the psychological moment at which the torpedo planes should be launched to the assault. They should be timed to attack in conjunction with the destroyer forces and when the enemy battle-line is fully engaged. This will have the maximum effect in dislocating the enemy's line, and throwing out his gunfire. Once a carrier is committed to launching her torpedo planes the flying off of accompanying fighter machines will not add greatly to the loss in distance.

The return of these machines is another matter. The attack completed, the craft will probably return at a time when the carrier is still endeavouring to regain her position in preparation for flying off a relief supply of reconnaissance machines and landing on other similar machines for refuelling. Again the reconnaissance service is of the first importance and it seems that the returning attack machines must take their chance. It may be possible to land on at the same time as the more important reconnaissance machines, but it seems likely that, under certain conditions, they must be sacrificed in order that the carrier may maintain her position.

Throughout the foregoing no consideration has been taken of the probable attacks on the carriers by enemy aircraft. This further complicates matters. While flying off or on, a carrier presents a steady target. During these operations indiscriminate anti-aircraft firing is impossible and the carriers' primary defence must be aircraft. Allowance has, therefore, to be made in her movements to ensure a supply of machines for defence purposes. Probably the best method of defence would be the harrying of the enemy's carriers with aircraft. The enemy, however, may concentrate on the destruction of reconnaissance and spotting machines, in which case fighters must be maintained in the air for their protection.

The whole matter becomes more involved the deeper it is probed. Over and above all is the question of the safety of the carriers themselves. That is of primary importance, at least until such time as the defeat of the enemy is assured. As long as there is a likelihood of further operations at sea the safety of the carriers must remain a most important matter to the fleet.

The answer to these problems can only be obtained by constant trials and exercises in peace time. Unfortunately there are matters which greatly hamper the attainment of satisfactory results. Economy reigns supreme and the limited supply of fuel prevents the carrying out of fleet exercises at high speed; besides which, the life of a warship is short and wear and tear of machinery must be considered. Finally, it is not possible to assess the effectiveness of anti-aircraft measures. Up to date there are no data on which to base an estimate of casualties and it is very difficult to say what proportion of aircraft are likely to return on completion of their duties, thus making it difficult for the carrier to make allowances of time for flying under war conditions.

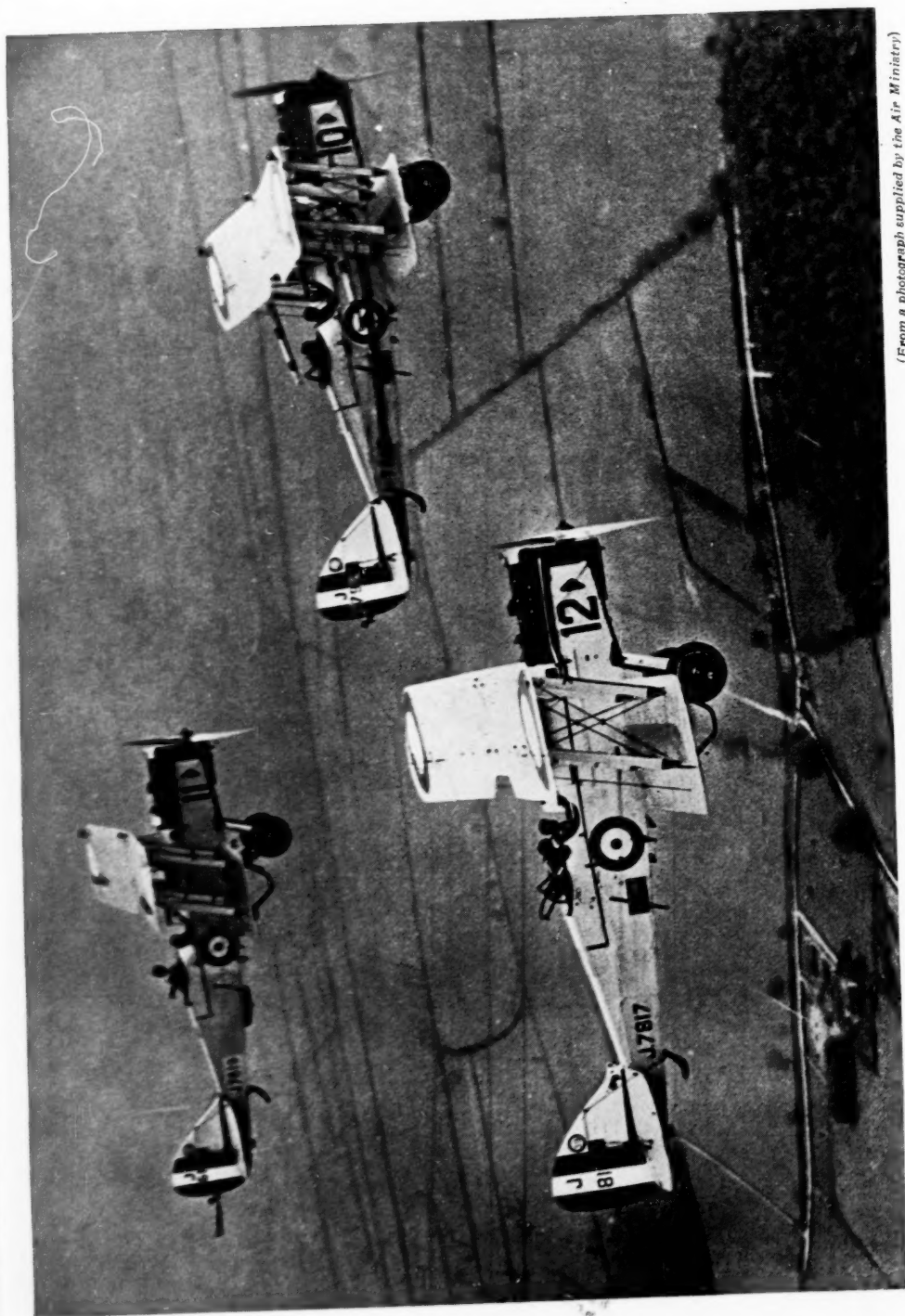
Fleet exercises take place at a proportionally reduced speed. This works satisfactorily until the matter of carriers is considered. They must steam at high speeds to work their aircraft, and as soon as these speeds are employed sense of proportion is lost. A carrier may steam 30 knots down the battle-line while landing on, but if the fleet is moving at 10 knots instead of twenty, she is afforded protection for a proportionately longer period than would be the case in war. In another case, light craft, limited to 17 knots, are in pursuit. The wind is favourable and the carrier employs her full speed away from the enemy while flying off and on. Thus in these peace practices the range is being opened, whereas under war conditions the enemy could keep it more or less constant. It is essential that this lack of reality be remembered or false impressions will be created.

The whole subject is one requiring much investigation and, up to date, it can safely be said that only a beginning has been made in this phase of fleet tactics.



**REPAIRING SHIP MODELS**  
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*(See Secretary's Notes)*



(From a photograph supplied by the Air Ministry)

# "FLIGHT VIC"

A FLIGHT OF D.H. 9A's (DAY BOMBING AEROPLANES) IN CLOSE FORMATION

## IMPERIAL AIR ROUTES AND THEIR DEFENCE

By CAPTAIN M. C. ENSOR SHARP, The Prince of Wales's Volunteers.  
(South Lancashire).

THE necessity for developing our Imperial Air Communications is now widely recognized and does not need to be emphasized, for it is becoming increasingly apparent that, in the near future, they will be an important factor in the defensive organization of the Empire.

The problems of establishing, operating, maintaining and defending air routes present many difficult and complex questions. The nature of the obstacles encountered when establishing and operating the routes, and the steps which must be taken to overcome them were clearly indicated in the recent lecture by Air Vice-Marshal Sir Sefton Brancker on "Air Communications in the Middle East."<sup>1</sup> It is proposed here to examine some further problems connected with the subject and to endeavour to arrive at conclusions on certain matters which should be taken into account when organizing Imperial Air Routes.

### ORGANIZATION ON A COMMERCIAL BASIS.

It is an accepted principle that if the Royal Air Force is to perform its functions in war in a satisfactory manner, it must be backed by a vigorous and efficient civil air organization, but the maintenance of great air routes is not the duty of a fighting Service in peace time. There are, however, certain advantages to be derived from that Service assisting in preparing for future developments. For instance a route may be opened up and maintained for certain strategic reasons and for training purposes, where, at present, it would not be possible to operate it commercially. Again, the civil company which follows on a route blazed by the Royal Air Force, will be saved heavy initial expenditure on advanced organization, survey and landing grounds. On the other hand, if the company still has to be subsidised, the advantage to the taxpayer disappears.

In planning the air routes of the Empire, commercial advantages and strategical requirements should both receive full consideration and be merged as far as possible. The routes should, however, be operated by business organizations and not by a Government department, although

<sup>1</sup> R.U.S.I. JOURNAL, May, 1926.



it may be necessary to have some measure of Government control. Let us, therefore, examine some of the factors affecting this commercial operation.

#### I. Traffic.

The amount of traffic likely to be available depends chiefly on (a) the length of the proposed air route and (b) on existing means of transportation.

##### (a) *Length of Route.*

It has been found by experience that in a small country such as Great Britain, which is well provided with means of communication, a commercial air transport system cannot operate with any success. The saving in time of only a few hours would not be sufficient inducement to attract mails, passengers, or freight from the existing types of transport. The success of the Imperial Airways Limited, operating mostly over short distances, is in part due to the fact that air transport enables passengers to avoid the sea trip from London to Paris or Brussels and in part to their being able to link up with the greater continental air routes.

In the case of a longer route, as for example, Egypt to Karachi, where the saving in time becomes a matter of days and not hours, the problem assumes a different aspect. The following extract from a speech by the Secretary of State for Air illustrates this point. "If Great Britain was unsuited for big (air) developments, the British Empire was better suited than any other country in the world for aerial communications, and if you look at the map you will find over the whole face of the world British territory or British spheres of influence which at almost regular intervals could be used as landing grounds or links in the great Empire air chain. Such an air chain would unite the capitals of the Empire strategically, politically, and commercially to a far closer extent than they had ever been united before."<sup>1</sup> From the above it may be deduced that the disability of short routes is not a factor likely to hinder the operation of Imperial routes.

##### (b) *Existing Sea and Rail transport systems.*

As indicated above, aerial transportation will not usually be able to compete against a railway system in a small country, moreover, though it would seem to have obvious advantages for a large country, it is doubtful if these advantages will be sufficient, in practice, to render commercial operation universally feasible in the immediate future. Take the case of India: a likely route would appear to be from Bombay to Calcutta. If you could go by air, instead of by rail, the result would

<sup>1</sup> Speech at Norwich, 20th November, 1925.

be a saving of less than a day, about 12-16 hours, but it is more than doubtful, considering how little time matters in India, if such a saving is worth while. The above calculation is based on the assumption that night-flying is not possible and that an aeroplane would not fly more than 600-800 miles a day; in time, doubtless, both these limitations will tend to disappear.

In general, it seems probable that, under existing limitations, it is not along the well-served railway routes that airways can be successfully operated, but, where there is the opportunity to connect up railheads, as in the case of an airway down Central Africa, the problem assumes a more favourable aspect and commercial operating becomes feasible.

In competition with ships, commercial aircraft have a better chance. In the first place the gain in time derived from air transport is proportionately greater when compared with sea instead of with rail transport. Secondly, over certain sea routes the regular service now operating provides only a weekly and in some cases a much less frequent service. In other words, the countries are indifferently connected. Thirdly, many of the discomforts of sea travel may be avoided, and this might attract a number of passengers. There are certain sea routes, such as Calcutta to Rangoon, along the Persian Gulf and amongst the West Indies, where these conditions particularly apply.

Briefly, it may be said that where there are existing rail communications, air routes are not, as yet, likely to be a commercial success, but as an alternative to sea communications, especially where the service is somewhat inadequate, there is a good prospect of sufficient traffic for the route to be maintained on a commercial basis.

## 2. Forward Organization.

It is not always sufficiently realized that to establish an air route large sums have to be spent on survey, landing grounds, hangars and repair facilities before the route is ready for continual use. The forward organization for the American world flight in the Pacific involved the employment of a number of ships of the American Navy. Such a proceeding is, of course, out of the question for a business concern.

Local considerations, likewise, affect the initial expenditure on forward organization. For example, the civil air route recently started from Cairo to Baghdad had its line already surveyed by the Royal Air Force and many facilities are in existence as a result of previous operation. To establish a commercial route from Cairo to the Cape would require expenditure out of all proportion to that which the Cairo to Baghdad concern had to incur.

In this connection it should be noted that capital sunk in forward organization in many respects resembles preliminary railway expenditure, in that once spent it is irrecoverable. In the event of an air route being

discontinued little return can be expected for money spent on clearing landing grounds and on other necessary forward organization.

### 3. Wireless Communication

In order to ensure a safe and regular service a wireless organization for direction finding and for issuing weather reports must be available for each air route. Great scientific progress in this direction has been made and before long aircraft should be able to navigate with confidence in almost any weather. But this, again, means expense to an air transport company which will have to establish and maintain such wireless organizations and their large staff of operators. All this initial outlay must be reflected in the charges for traffic.

### 4. Increased Expenditure.

At a time when national economy is so urgent it may seem inopportune to suggest any new expenditure, but the competition of other Powers renders it necessary if we do not wish to be left behind in the development of great air routes.

The situation at the moment has been summed up by Air Vice-Marshal Sir Sefton Brancker in the following words:—"The position in Europe to-day is that we appear to be well behind France and Germany in the scope of our operations, but I think we can claim the palm for general efficiency. . . If we only had a little more money to spend you would see a tremendous boom in British aviation."<sup>1</sup>

The Government grants certain subsidies which have been invaluable, but the question is do they go far enough? Are they sufficient to enable the main Imperial routes to be organized without undue delay? The answer is surely in the negative.

Our present tendency seems to be to wait until the airship is perfected, because that type of aircraft is considered the more suitable for the long Imperial routes. There is no doubt that the airship is better suited for long distance flying; but it is greatly handicapped by mooring difficulties, and speed, the essential factor in an air mail, is not in its favour. In place of waiting for the further development of the airship we should subsidize aeroplane services on a more generous scale. The point is, is it worth, say, half-a-million a year to bring India within a few days of England and Australia well under a fortnight? With the development of night flying the above times would approximately be halved. It is contended that such expenditure would be more than worth the outlay, and quite apart from linking up the Empire would be of the utmost assistance to our struggling aircraft industry which is the bed-rock of successful operation in war.

<sup>1</sup> R.U.S.I. JOURNAL, May, 1926, p. 332.

In reality, such expenditure is nothing more than a form of insurance, and from a purely defensive aspect it is more desirable than certain items which figure in the Estimates for the fighting Services. The expenditure of half-a-million would be insignificant compared with the advantages to be gained if the political and strategical leaders of India, Australia and New Zealand could, in case of emergency, meet those of the Mother Country at Cairo, let us say. Such a meeting would probably prevent the Empire being committed to exploits, like the Mesopotamian campaign, without a true appreciation of all the factors involved.

Altogether it is becoming increasingly evident that these air routes must be developed and, under existing conditions, this will only be possible if the initial cost of subsidization is faced.

From Calcutta the main route continues to Rangoon and, as already indicated, this section is a matter of minor importance.

#### 5. Statistics.

Another essential for the embryo air company is reliable data, as to the cost per ton mile, as it is largely on this that they will have to base their calculations and charges. Such data should be readily available, as far as land services are concerned, when the Egypt-India route is working, but further experience will be necessary to obtain figures for the cost of operating and maintaining sea-plane routes.

Airways are dependent on bases or aerodromes for supplies, and the aerodromes, in turn, are dependent on shipping or rail facilities. Therefore, due regard must be paid to these factors when constructing air routes.

#### STRATEGIC ROUTES.

The desirability of "All-Red" routes is obvious, and accordingly it is proposed to consider only those routes which touch or link British owned or mandated territory.

Recent flights in Africa have demonstrated the flight from Cairo to Kano in Nigeria under service conditions. The flight from Cairo to Kano in Nigeria under service conditions was only made possible by the courtesy of the French Air Squadron.

1. The United Kingdom to India and Australia.

This route is on the main axis of the Empire and is the pioneer route of long distance Imperial flights. It has, in part, been followed by the various expeditions which have attempted world flights.

From the United Kingdom to the Middle East and thence to India the route is well known and accordingly it is not proposed to enter into details here.

On reaching India the delineation of the next stage in the Eastern route is a difficult problem. For Imperial communication the route should run from Karachi-Nasirabad-Allahabad-Calcutta and thence to Rangoon. From India's point-of-view a route running from Karachi to Lahore, Bombay and Madras would be more useful. India's strategical requirements against potential enemies are mainly those connected with the North West Frontier and these would best be met by air routes which would assist to overcome existing difficulties in lateral communications East of that frontier. Other strategic routes should include

two parallel trunk lines South-East of the Frontier, one running from Quetta to Hyderabad and the other from Peshawar to Lahore and Delhi.

Thus India's strategic requirements are not compatible with those of a through Imperial Air Route. In the event of India's eastern frontier which is contiguous with China becoming of increased importance the situation would be changed. Except for this contingency India cannot be expected to give enthusiastic support to the Karachi-Calcutta route. Already, the announcement by the Government of India that £32,000 is to be spent on a subsidy for an air service from Kantara to Karachi has met with strong protest in that country. Altogether it looks as if the completion of the route across India is likely to present considerable difficulties.

From Calcutta the main route continues to Rangoon and, as already indicated, this section is a straightforward matter. From Rangoon, Singapore is the next stage—then by Christmas Island to Perth in West Australia. An alternative and safer route from Singapore, which, however, is not "All-Red," would be to use the islands of the Dutch East Indies and thence to Port Darwin.

## 2. Cape to Cairo.

Airways are dependent on bases or aerodromes for supplies, and the aerodromes, in turn, are dependent on shipping or rail facilities. Therefore, due regard must be paid to these facilities when constructing air routes. This is more particularly the case in a continent such as Africa where internal communications are inadequately developed.

Recent flights in Africa have demonstrated the possibility of such undertakings. The flight from Cairo to Kano in Nigeria under service conditions was successfully carried out, but it should be remembered it was only made possible by the courtesy of the French Air Squadron in West Africa. This squadron placed its landing grounds and other facilities, which were of great assistance during the flight, at the disposal of our aviators.

Two flights from Cairo to the Cape have been carried out within the last few months with conspicuous success, the first by Mr. Cobham and the second by the R.A.F. expedition.

In the case of the R.A.F. flight the distance covered on the outward journey was about 5,290 miles and the principal points along the route were Assuan, Khartum, Malakal, Mongalla, Kisumu, Mwanza, Tabora, Abercorn, Broken Hill, Livingstone, Bulawayo, and thence across the Transvaal and Free State to the Cape. This route was "All-Red" with the exception of a small portion between Abercorn-Broken Hill, which crossed over Belgian territory.<sup>1</sup>

<sup>1</sup> See Air Notes, p. 636.



There is one aspect of flying in Central Africa which does not appear to have received the prominence it deserves, and that is the potentialities of seaplanes on certain parts of the route. Firstly, the Nile and then the great Lakes present ready-made landing grounds in some of the most difficult parts of the Continent. Such natural facilities appear to be too good to ignore. Although, to utilize the lakes effectively would mean a slightly increased mileage, nevertheless, the advantages to be gained would seem to outweigh this objection.

It is suggested that, in this connection, experiments with seaplanes would be both advisable and profitable.

### 3. Vancouver to the United Kingdom.

The route across Canada does not present great difficulties except the passage of the Rocky Mountains. From West to East it is probable the starting point would be Vancouver and thence practically parallel to the border between Canada and the United States. The route would touch Calgary, Regina, Winnipeg, North Bay, Ottawa, and Montreal and thence down Quebec or across the State of Maine to St. John, N.B. From there to Sydney, Cape Breton Island and then to Newfoundland, the last landing place in North America being at St. John's. From here the problem becomes difficult and the question of the respective value and characteristics of aeroplanes and airships comes into prominence.

To attain any degree of regularity in the near future on this link, it would appear essential to have airships, but the provision of a fleet of them,—the minimum number would have to be three,—would mean a large outlay of capital. At the present stage of their development it is doubtful whether such expenditure would be warranted. The desirabilities of this Western strategic route are many, but it cannot be said that its provision is one of the most pressing or urgent needs of the Empire. The North Atlantic has admirable cable and steamship services and it is probable that these will have to suffice for this link in Imperial communications as far as the immediate future is concerned.

In fine, the eastern portion of this route, if, and when it is in operation, will be an airship service, but at present the objects to be gained are too small, and the cost of establishing it is too great to justify it until more important strategic lines are in operation.

### DEFENCE OF AIR BASES.

As the defence of sea routes entails the safeguarding of harbours, so the security of air routes implies the protection of bases of supply and landing grounds. The course to be followed by the Imperial air routes will not in all cases permit of use being made of existing naval bases with their defences. For example, Gibraltar is unsuitable both on account of its geographical position, and because of the limited space

on the rock itself. The question arises, therefore, what is required of an air base and what factors govern its defence? An air base connotes an area provided with a landing ground, power station, mechanical repair facilities, and certain permanent accommodation. The ideal air base should be close to adequate rail or shipping facilities in order that food, stores, and supplies can be maintained. An air base in Central Africa, miles from any system of ground transport can be of little value other than as a landing ground. Thus an essential factor in the selection of an air base is that it should have ready means of communication with normal markets. It should, of course, be on the most direct route and not easily threatened by any potential enemy. Further, its geographical position should be such that it is not subject to uncertain or varying weather conditions.

When considering the matter of defence it is first necessary to be clear as to the forms of attack against which the air base must be defended. These may include attack by hostile aircraft, or ground attack, or attacks by sea or a combination of all three. Air bases, in turn, may be roughly classified into two categories, land bases and sea or island bases. A land base is regarded as one that is beyond the reach of sea-borne attack. It is further assumed that an enemy attack would aim at the destruction of all plant and stores so as to render the base unable to fulfil its functions. In order to avoid confusion it is proposed to consider the land and sea bases separately.

#### LAND BASES.

The lessons of the war prove that air attack by bombing or small arm fire, though not totally disabling, is disorganizing. The question of underground air shelters naturally arises, but if we are to accept the dictum of a lecturer at the Royal United Service Institution that "nobody is going to make serious efforts at making any structure bomb-proof against the largest bombs of the future,"<sup>1</sup> it must be accepted at once that the proposal is not practical. The best defence against air attack, for aircraft operating from a land base, lies in their mobility. On the approach of the raiding party they can take to the air and endeavour to drive back the attackers or hinder the bombing operations or, failing aggressive action, they can scatter. In any case it is improbable that total destruction would result unless the attacking force were greatly superior to the defence or unless the base is caught unawares. Take a practical example of a land base, outside the United Kingdom, but within easy striking distance of a potential hostile air force, such as a British base in Central Africa might be from French air forces in Sahara. The effects of air attack on this base would not seriously influence large strategical issues, for secondary air bases could be

<sup>1</sup> R.U.S.I. JOURNAL, February, 1926, p. 105.

established in other places on the parallel railways which run from the Indian Ocean westwards.

It would appear that, in order to render a base really inoperative, it would be necessary either to land on the ground and let loose special destruction troops, or to launch a land attack by troops not conveyed by air. Both cases render local air superiority desirable if not actually essential.

For the air-borne attack, even granted the local superiority, a great quantity of H.E. would have to be released before a landing could be effected with any reasonable chance of the attackers getting away on the completion of their task. The more H.E. carried the smaller must be the destruction parties. It would seem that a sudden raid of this type would be in the nature of a desperate effort, only to be attempted for a definite reason as an adjunct to larger tactical or strategical operations.

A land attack would probably be made in conjunction with such air forces as are available to co-operate and would usually be carried out by highly mobile troops capable of covering long distances with great rapidity. This characteristic of the attacking troops favours the defence of the air base for the following reasons. In the first place the force would have to endeavour to surprise the defenders. This means night marches and no wireless communication, which would render co-operation between the force and its air arm a matter of the greatest difficulty. Secondly, if adequate mobility is to be ensured, the attacking troops could not have guns of large calibre with their column. Therefore, granted that the air base is protected from those directions from which land attack is possible, it has not a great deal to fear from a land attack without air assistance.

On the approach of the attacking troops, the air base ground troops would man their defences which must, of course, be tank and armoured car proof. The aircraft of the base would engage the mobile column and, if they attacked with sufficient vigour, might be able at least to hinder or delay its progress. Once this is done the danger is past. This may appear to be unduly optimistic, but it must be remembered that the mobile force is away from its vital supplies of oil and petrol. If it does not take its objective in one bound and by surprise, it will probably be obliged to withdraw to avoid disaster. The time factor in such an operation is all-important.

#### SEA OR ISLAND BASES.

The case of a disembarked force assisted by naval guns and with its own air force operating from aircraft carriers, is one of peculiar interest to us as an Island Power. This is the type of attack that may be expected on our own air bases, scattered as they will be throughout

the Empire. For instance, a successful attack of this nature on the base at Christmas Island might have far-reaching effects. A chain is no stronger than its weakest link, and if one of these links—in this case the one between Singapore and Australia,—is broken, the main strategical route to Australasia may be disorganized for a considerable period.

But to continue; an attack from a sea-borne force offers a more serious problem than in the case of mobile land forces. The interesting exercises carried out by the United States Navy against the Hawaiian Islands in 1925<sup>1</sup> illustrated that it is possible for the attacker to make an aerial reconnaissance and form a plan of action before the defending force is aware of the proximity of the hostile fleet. One of the conclusions drawn from the exercises was that the islands would have fallen owing, largely, to the superiority of the hostile air force.

The garrison of an air base could hardly exceed a battalion of European or native troops, supported by machine guns and possibly some fortress artillery. The defence would endeavour to hold the fleet at a distance with its fortress artillery, which is not likely to be highly successful, while all available aircraft go out and bomb the ships. The infantry would as a last resource be used to engage any landing parties. The advantage appears to be on the side of the attacker. A somewhat contrary view is disclosed in the following quotation of a former Assistant Chief of the American Army air forces :—

“Strings of island bases will be seized by the strong Powers as strategic points so that their aircraft may fly successively from one to the other, and as aircraft themselves can hold these islands against seacraft, comparatively small detachments of troops on the ground will be required for their maintenance. An island instead of being easily starved out, taken or destroyed by navies, as was the case in the past, becomes tremendously strong because it cannot be gotten at by any land forces, and while supremacy of the air is maintained, cannot be taken by sea forces.” (“Winged Defence,” by Colonel W. Mitchell.)

The crux of the problem turns on this phrase “supremacy,” or as we prefer to call it, the superiority of the air. Colonel Mitchell seems to have failed to realize that in the case of outlying island bases such superiority is unlikely, because these bases are mostly acting as links in a long strategical route and considerable air forces would not be available for local defence. In the Hawaiian exercises, for instance, the attacker had 119 aeroplanes and the defenders 45, and it should be noted that the superiority of the former was obtained by his being able to bring up highly mobile air bases in the form of aircraft carriers which were strongly defended by the presence of the fleet. In other words, the islands fell to the attacker’s Navy. If we read aright the lesson of these exercises, we must come to the conclusion that island bases are distinctly vulnerable

<sup>1</sup> See R.U.S.I. JOURNAL for August, 1925.

to naval attack, and even in the case where air superiority is with the defence, it may be a serious menace. Bombing experiments so far carried out, under favourable peace conditions, do not indicate that a slight air superiority would enable the defenders to incapacitate or drive off a hostile fleet.

It would appear that in future both in the attack and defence of island air bases, naval activities are likely to play a considerable part. The command of the sea will be as necessary as ever to keep open Imperial communications, be they sea or air. The type of attack considered above presents great chances of success and it is suggested that the subject would well repay further investigation in order to obtain experience on which to base our policy as regards the defence of Imperial air bases.

#### CONCLUSION.

From the above survey of some of the factors affecting Imperial Air Routes, we may make the following deductions :—

- (1) If these air routes are to be established, and no Empire such as ours can afford to neglect them, the Government must be prepared to grant adequate subsidies. A judicious disregard of penny-wise expenditure now may result in great economies in the future. Once the movement is started it will gather momentum and, in a comparatively short period, the air companies should be able to stand alone. The essential is capital outlay now. The progress of German aviation on the continent, in South America, and even in South Africa, may be a serious menace to us.<sup>1</sup> The picture of a German air company operating in South Africa should convince the most ardent economist of the need of a British subsidy.
- (2) Research and experiment in the design of seaplanes should receive increased attention, the large tracts of water to be crossed in the air routes in Central Africa, the West Indies, from Calcutta to Rangoon and Australia render this essential. It is suggested that seaplanes will play a very important part in the formation of our air routes, more so than is contemplated at the present moment.
- (3) The air routes should be in the hands of civilian companies, which companies should receive the subsidies mentioned in (1). The successful operation of these companies means the establishment of the essential air routes. These companies require statistics which should shortly be available from the Egypt-India route.

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<sup>1</sup> "Imperial Air Routes." *The Times*, 27th February, 1926.



- (4) The Empire requires an Air Policy to direct the efforts to be made to link up its various portions and to indicate the order of priority to be adopted. The Policy should also deal with co-ordination between the Dominions themselves and with the United Kingdom. It should lay down essentials of construction and design of aircraft and engines so as to ensure some uniformity. It should indicate what places are most suitable, in the interests of the Empire, as bases so that minor local considerations do not outweigh strategical conceptions.
- (5) To frame and carry out this policy an Empire Air Committee is required. This should include representatives from all parts of the Empire and should have limited executive powers. Its headquarters to begin with would be in London, but as the air routes are further developed it might be moved to Egypt. One of the rôles of this Committee would be the laying down of the defence policy which would be initiated with the growth of the air routes. The formation of this Committee and the functions of its members would be decided on without much trouble, it is not proposed now to consider these matters in detail.

If the above were carried out and the Empire connected by efficient air routes radiating from the United Kingdom to the various parts of the globe, a great advance in cohesion and co-ordination will have been made. As a result, questions of policy in times of international emergency will be easier of solution. The increased facilities for inter-communication and commercial intercourse will re-act throughout the Empire and unite still closer its component parts and promote an increased understanding of each others' points-of-view and difficulties.

But quite apart from these advantages, there can be little doubt that in the near future the establishment of Imperial air routes will become a matter of strategic necessity, for they will form an increasingly important part of the Empire's defensive organization. If their construction is not undertaken now, it will mean increased expenditure to make up for lost time later on. The task may then have to be undertaken for urgent strategic reasons by the Air Forces of the Crown, instead of being developed steadily, with Government assistance, as a commercial undertaking.

In view of these facts it would appear necessary to promote and assist all organizations which are capable of establishing such air routes and so help to further the all important cause of Imperial unity.

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## ORGANIZATION OF THE MEDICAL SERVICE IN THE FIELD

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By MAJOR M. B. H. RITCHIE, D.S.O., Royal Army Medical Corps.

*Being the substance of certain lectures given to the officers of the Malta Garrison, first in December, 1924, and, again, in January, 1926.*

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MEDICAL organization, quite apart from Hygiene, is a subject that is, or should be, of interest to every military officer. It seems, therefore, not without interest to put before my combatant colleagues a brief statement of this organization, together with a few words concerning the role of the Medical Service in war, which, I trust, may also illustrate the intimate relationship that must exist between the Science of Medicine and the Art of War.

I will cut down purely technical details as far as possible, giving them in roughly tabular form. I will begin, therefore, with a summary of the Medical Units of the British Army, as they were left at the close of the Great War, and then attempt to show you how they can be modified to suit circumstances.

The MEDICAL UNITS of the Army of to-day are :—

- Field Ambulances ;
- Field Hygiene Sections ;
- Motor Ambulance Convoys ;
- Casualty Clearing Stations ;
- Mobile Laboratories ;
- Ambulance Trains ;
- General Hospitals ;
- Convalescent Depots ;
- Hospital Ships ;
- Medical Store Depots.

The distribution of these units into THREE ZONES, though somewhat artificial, still continues in our Field Service Regulations.

The *Collecting Zone* comprises regimental medical establishments, field ambulances and motor ambulance convoys.

The *Evacuating Zone* includes motor ambulance convoys, casualty clearing stations, and ambulance trains.

In the *Distributing Zone* stand the general hospitals and convalescent depots; also the hospital ships and all hospitals outside the theatre of operations.

It would be more convenient for explanatory purposes, perhaps, to divide this organization into *divisional units*, *non-divisional units*, and *line of communication units* (see Appendix), and I will treat of them accordingly.

(A) **DIVISIONAL MEDICAL UNITS** (see Appendix).—Forming part of every division are three field ambulances and a hygiene section. These are divisional troops, not allotted to brigades—one to a brigade—though their total number may correspond thereto. They stand under the orders of the A.D.M.S. of the division, who at the same time commands the R.A.M.C. of that division. It is his duty to detail medical units or portions of them to any part of the division that may be temporarily detached.

The *Field Ambulance* (see Appendix) is divided into a headquarters and two companies. Headquarters is designed to form the main dressing station, while the two companies include the stretcher bearers, who work forward in touch with the regimental medical establishments and form the advanced dressing stations.

The *Field Hygiene Section* (see Appendix), has as its function to supplement the routine sanitary work of the division. It contains men who are skilled sanitary inspectors and it undertakes expert details of area sanitation, assisted by unskilled labour. In France, these sections were allotted permanent areas, being withdrawn from divisions and made army troops.

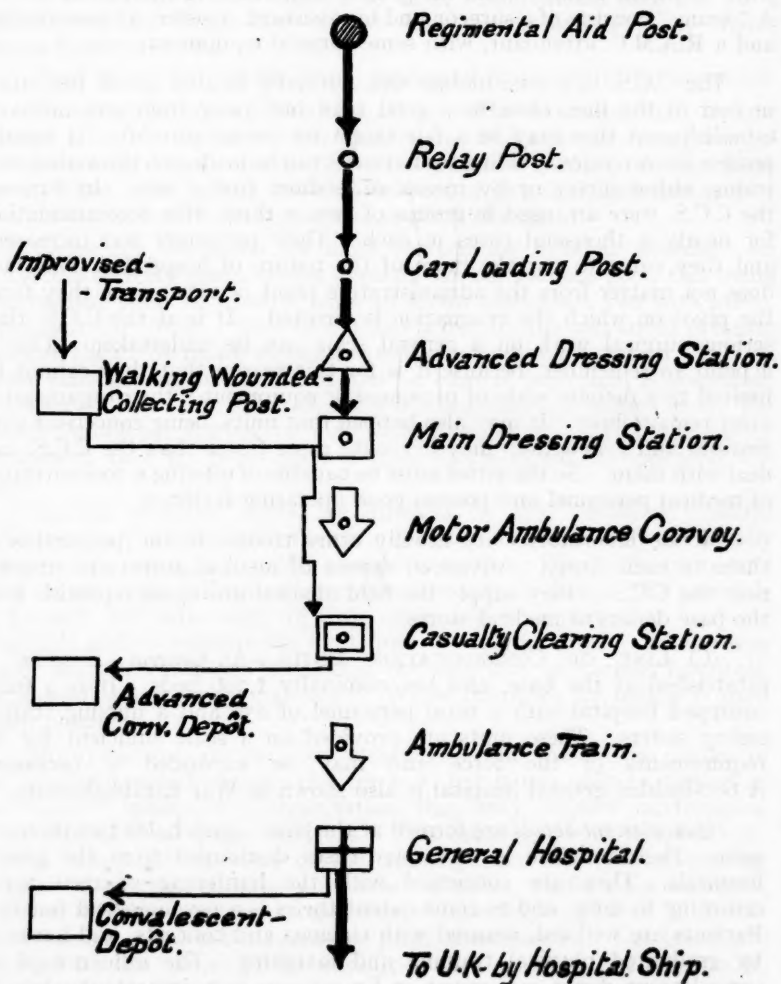
In a cavalry division there are three *Cavalry Field Ambulances*. The establishment of these units is smaller than that of the field ambulance, having a personnel of 172, including six medical officers, quartermaster, and dental officer. It is divided into a headquarters and one company. There are six horsed and ten motor ambulances, with four 3-ton lorries for carrying the personnel. A cavalry division has a hygiene section also.

(B) **NON-DIVISIONAL UNITS**.—These consist of motor ambulance convoys, casualty clearing stations, mobile laboratories, and advanced depots of medical stores. To them may be allotted additional field ambulances and hygiene sections.

*One Motor Ambulance Convoy* (see Appendix) is usually allotted to each Corps in the field, with reserve convoys at Army and General Headquarters.

The *Casualty Clearing Station* (see Appendix), better known by the abbreviation of "C.C.S.," is the essential medical unit in the forward area, since it is there that casualties may receive operative treatment. The C.C.S. are provided on the scale of one to each division in the field,

# SYSTEM OF EVACUATION.



but are Army Troops under the control of the D.M.S. of the Army. Each one has a heavy and a light section, the latter being carried in 3-ton lorries and designed to push forward and form an advanced operating centre. During battle periods they have to be reinforced with "surgical teams" from the general hospitals and from other C.C.S. A "team" consists of a surgeon and his assistant, a sister, an anaesthetist and a R.A.M.C. attendant, with some surgical equipment.

The C.C.S. is a semi-mobile unit normally located about ten miles in rear of the line, close to a good road but away from any military establishment that may be a fair target for enemy aircraft. It should possess its own railway siding so that cases can be loaded on the ambulance trains, either direct or by means of a short trolley line. In France, the C.C.S. were arranged in groups of two or three with accommodation for nearly a thousand cases in each. Their personnel was increased, and they came to partake more of the nature of hospitals. This fact does not matter from the administrative point of view, since they form the pivot on which the evacuation is directed. It is at the C.C.S. that serious surgical work on a general scale can be undertaken. This is a point to remember, because it is for this reason that they cannot be limited to a definite scale of personnel or equipment; their organization must remain fluid. It may also happen that units, being concerned with first-aid and evacuation, may evacuate cases faster than the C.C.S. can deal with them. So the latter must be capable of offering a concentration of medical personnel and possess good operating facilities.

Mobile laboratories are usually army troops, in the proportion of three to each Army. Advanced depots of medical stores are situated near the C.C.S.; they supply the field medical units and replenish from the base depots of medical stores.

(C) LINE OF COMMUNICATION UNITS.—A *General Hospital* is established at the base, and has nominally 1,200 beds. It is a fully-equipped hospital with a total personnel of 256 and a nursing staff of eighty sisters. These units are provided on a scale sufficient for the requirements of the force and may be expanded if necessary. A 600-bedded general hospital is also shown in War Establishments.

*Convalescent depots* are formed at the base; each holds two thousand men. Their function is to receive cases discharged from the general hospitals. They are concerned with the hardening of men before returning to duty, and to some extent theirs is a psychological function. Patients are well fed, amused with cinemas and concerts, and hardened by graduated physical training and marching. The influence of the convalescent depot movement in France was very important when the war reached its later stages. Advanced convalescent depots also are established in connection with the C.C.S.; these are designed to receive minor cases and prevent unnecessary evacuation.



*Base depots of medical stores* replenish advanced depots and the hospitals at the base. They contain drugs and surgical equipment, but do not supply stretchers, blankets, bedding or tentage, all of which come from the ordnance service.

*Hospital ships* are supplied to meet requirements and not on a definite scale. Each ship should have accommodation for about seven hundred cases.

Now let us turn to the actual process of treatment of the wounded.

**EVACUATION FROM FRONT TO BASE.**—The wounded man is first picked up by the regimental stretcher-bearers and taken to the regimental aid post, where he is attended by the regimental medical officer. Here he is taken over by the stretcher-bearers of the field ambulance, who maintain touch with the regimental medical officers.

Cases are evacuated by hand carriage or wheeled stretcher, on a system of relay posts, as far back as the car loading post, this being the nearest point to which a horse or motor ambulance can with safety approach the front. They are then taken to the advanced dressing station, thence by motor ambulance to the main dressing station. At both these stations they are attended, but no more is done than is absolutely necessary. From the main dressing station they are conveyed by the motor ambulance convoy to the C.C.S., from which unit, after careful treatment, they go by ambulance train to the general hospitals at the base.

Lightly wounded cases are directed on the "*walking wounded collecting post*," formed near the main dressing station. They are usually conveyed by returning empty transport, buses or Decauville train, and may travel to the base in an improvised ambulance train. The principle is to take full advantage of any additional transport that may be available and to separate the light from the serious cases. All the way down the line casualties are sorted out and sent to various hospitals, for gassed and other special cases. Water transport by barges is used when possible.

**MODIFICATIONS OF THIS ORGANIZATION.**—The above is an outline of our present medical organization for war, but it can only be viewed as an initial "taking-off" organization that may require modification when and as a campaign develops. Two influences tend to modify it. Firstly, there is the nature of the campaign and the type of warfare waged. These are military influences; position warfare, for example, requires different medical arrangements from those required in a war of movement. Secondly, there are medical influences. The latter are imposed by the nature of the casualties that occur or likely to occur, also by the methods of treatment adopted. An instance of this last named fact can be obtained from our experiences in France. Surgical treatment became a relay race, one method dropping out of the running as a better took its place. The best results towards the close of the war

were obtained by what is called the method of "excision of wounds." Briefly—and unprofessionally—this method is to cut out a small wound that is septic, thus converting it into a slightly larger wound that is *aseptic* but which heals up in a matter of days instead of dragging on for months or years. But it was found that before this method could be practised on a large scale, it was necessary to expand the surgical accommodation in the C.C.S. and so to employ more surgeons in the forward areas. This was due to the large increase of cases requiring early operation, while a larger percentage of wounded needing treatment remained on hand. More elaborate equipment, such as X-ray installations, also became essential at the C.C.S. Thus the whole organization of the Medical Service had to be modified and re-arranged in order to conform to the new method of treatment. Then again, it was of little use to maintain an organization designed for the treatment of wounds when the majority of casualties were caused by chemical weapons. *Surgical policy consequently came to alter war organization.*

CHEMICAL CASUALTIES.—Chemical warfare is a subject about which much misapprehension is rife. One might be tempted to believe, chiefly by reading articles which have appeared in the Press, that new and unexpected chemical weapons may not only be discovered with ease, but can also be exploited in those countries that possess, in the shape of their dye industries, the plant necessary for the rapid production of such weapons on an outbreak of war. Nevertheless, the discovery of an unknown lethal gas or of another similar substance is probably not such a simple operation as many would suppose. And, even if found, there are questions concerning facility and cost of production that demand consideration. The gases of the late war were known to chemists many years ago; it was their military value rather than their composition which came to light in the war. It may be that chemical warfare may, after all, not prove such a "dark horse" as has been supposed in many quarters. On the other hand, mustard gas, the "spot" gas of the late war, may continue as such in the next. It is by no means out of date, and little is yet known about it. We still have to give it very respectful consideration.

Amidst much that is uncertain, there remain certain facts. Thus the comparatively small losses inflicted on the British Army by enemy gas can be realised from a study of the Medical History of the War. These are surprising; and the facts deserve to be better known. The total gas casualties came to under 181,000, out of which there were only some 6,000 deaths. As a casualty-producer gas is not to be compared with many diseases. Even with regard to mustard gas poisoning, it comes to light that 75% of the casualties could return to duty within eight weeks, involving only a short period during which they required special nursing. At the same time one should be able to study the casualties that occurred in other armies, before forming a final opinion on this question. But chemical warfare has still to be brought into

proper perspective. It would appear that its dangers are to some extent psychological. It is certainly more humane in its effects than the older weapons; this means that it does the soldier less injury, and he has less to fear from it, provided that he is adequately protected. It is also for our consideration whether the accepted system of teaching our men to protect themselves against gas by methods of "putting the wind up" is altogether sound. On the other hand, chemical warfare, though it incapacitates more than it kills, can put a large number of troops out of action in a vital area at an inopportune moment; while the use of protective measures interferes with the mobility and efficiency of a force. On this account it must remain a perpetual nightmare to commanders, as indeed it is to the Medical Service.

So our medical arrangements to meet chemical warfare present a difficult problem. If mustard gas casualties are forthcoming, it is necessary to establish elaborate de-gassing installations well up in the forward area, since cases must receive early attention. They require to be bathed and re-clothed, eyes and throats treated, infected clothing put out of harm's way. This routine, moreover, has to be carried out for those who are not quite sure whether they have been gassed or not. All this has to be done when large numbers may be pouring in and may overtax our resources.

I would now end with some remarks of a more general description.

**PECULIARITIES OF MEDICAL WORK.**—There are one or two characteristics of the Medical Service that I wish to touch upon, as they bear on its war efficiency. Officers of most branches of the Army are trained after they join. They have courses of instruction, followed by refresher courses. The army is their training school in which they learn all they have to know about their profession. Further, the combatant units are organized in peace as they fight in war; peace training is based solely on what they are called upon to do in war. Now consider the Medical Service. Its officers are trained outside the army, and their supply is based upon that of the civil profession. They then come into the Army to apply knowledge acquired outside. The Army cannot give them all the necessary experience; hygiene alone sees to that. So they must keep in touch with civil medical schools in order to keep themselves up-to-date. Again, the Medical Service in peace and the Medical Service in war are two distinct entities and, moreover, differently organized. The war service springs into being only on mobilization, created from a peace nucleus that has been engaged in professional work with but very little opportunity to gain any knowledge of the changed responsibilities to be assumed in war. Lastly, there is yet another fact: an officer of a combatant service, on going to the reserve of officers, in course of time probably loses some of his fighting efficiency, whereas the doctor, other things being equal, may actually possess a higher efficiency value when called up from the reserve than when he retired.

*Doctors see the world from a different angle, and it is not possible to organize the profession of medicine on lines identical with those of the profession of arms. Of all the individuals who go to make up an army, the doctor is probably the least understood.*

SOME MEDICAL DIFFICULTIES IN THE FIELD.—Certain matters require to be better appreciated regarding the functions of the Medical Service in war. In the first place, it embarks on a campaign scarcely knowing what its commitments are. An army does not, as a general rule, take the field until supplies of food and ammunition sufficient for its task have been collected. Not so with the Medical Service. The casualties to be expected from battle and disease cannot be foretold with accuracy; so it runs constant risk of being overtaxed, as casualties may occur unexpectedly in large numbers in a small area and in a short time. Accordingly, it requires to be very flexible in its arrangements; yet it must, and indeed can, never hesitate to tackle an emergency, however grave it may be; it cannot complain of having had no warning as others may do. It must respond at once; it must be a Service that is always there and ready to help.

One perpetual source of trouble is that its reserves are never completely in its own hands. Breakdowns occur from lack of transport, tentage, stretchers, hospital equipment, for which it is dependent upon "Q." In battle, the Medical Service must be importuning "Q" all the time. There is a limit to the number of cases that can be dealt with by medical units in twenty-four hours, and to the carrying capacity of convoys and trains. When limits are exceeded, as they often are, lorries and buses are wanted, perhaps very badly, for the wounded at the very moment when urgently required for carrying ammunition and troops. C.C.S. have not enough transport to move, so this has to be asked for. An additional Field Ambulance can be obtained only from another formation, and this is difficult, since another commander may not want to take part with a single one of his own when he may be suddenly called upon to take his division or army into action at short notice. Reserves are thus locked up and it is hard to find the key.

A medical criticism of the present organization of an army in the field is that it puts a deal of unnecessary work on "A" and "Q" while limiting medical responsibility and scope. The doctor can approach "Q," who is vital, only through "A" who is merely a post-office as regards transport and equipment. One man can get things when another cannot, and so PERSONALITY becomes the supreme gift for the head of the Medical Service. So long as everyone is willing to help, little difficulty will be experienced, however cumbrous the machinery of administration may be. But if individuals "stick to the book," the task is hard . . . mighty hard!

THE FUTURE OF MEDICINE APPLIED TO WAR.—Let me continue with a word regarding the future. The late war demonstrated what an efficient Medical Service means to an army. It is no longer

humanitarian pure and simple: its work is the conservation of man-power: medical science is the agency that can keep the numbers high. Neither is it entirely a matter of the prevention of disease. The minor cases of wounds and sickness outnumber the serious cases by three to one; speedy diagnosis of commencing disease, early treatment, and effective treatment of the lightly wounded, all are factors of importance. Where prevention has failed, early treatment and rapid cure come in to stop the leak in man-power. In France there occurred in one year almost nine hundred thousand admissions for sickness, and their average stay in hospital lasted forty-five days. A very large proportion of these admissions was due to lice and scabies.

Our task is thus to aim at an army that does not scratch and in which the louse has not been mobilized. This can be done by providing mobile bathing establishments, laundries, and vermin destroyers. They may be expensive, yet they may be cheap in the long run. It is in the more effective application of medical science to armies that the future scope of the doctor lies. But we have only as yet begun. Armies can wage war and live in countries and districts where disaster formerly overtook them, for the doctor carries the key in his pocket.

**MECHANICALIZATION.**—We are now reaching an epoch where mechanicalization, aviation, and chemical warfare will profoundly modify conceptions of war. These new factors deeply concern the Medical Service. Units will have to be mechanicalized; medical tanks are wanted for advanced dressing stations, and for use in tank and cavalry operations; aeroplanes may be called upon to carry out evacuation. The doctors must be in close touch with higher military thought on these matters, and know what other branches of the Army are thinking about. They will then have to modify their own organization as others alter theirs. But to do this, they must first be told what is happening, so as to change their ideas to conform with new discoveries, and new lines of treatment. They will then be in a better position to work out their own needs.

**CONCLUSION.**—In recent times the brains of an army have been apt to mark time after a long war. The army that Wellington led to victory dwindled in war efficiency during the decades following Waterloo until there came the Crimea. We hear a great deal about post-war *Unrest*; mentally, we should guard more against post-war *Rest*. After the South African war, it is true, the Army continued mentally active, and in many ways this activity bore its fruits during the Great War. One certain result of this mental activity was the resuscitation of the Medical Service in the Army. Still, it must remain a matter of regret that the public medical services have failed to attract the young medical man of the present day. A nation that will take a true interest in its medical services, develop their scope, which can attract keen young medical men to itself and give them such sound instruction in warlike duties that



they will understand conditions of future war, is that which will derive the highest value out of its man-power in war.<sup>1</sup> It is possible that the Medical Services of land, sea and air forces will eventually be linked up into an Imperial Medical Service controlled by the Ministry of Health. There is much to commend this scheme; the armed forces of the Empire would only gain thereby. Four "branches," each in a water-tight compartment, yet employing similar personnel and equipment, could probably do better work linked up into one great service. This is perhaps mere speculation. Still, whatever happens, it remains true that, the closer the bond is drawn between the science of medicine and the art of war, the more effective and efficient will that partnership prove itself to be in times of stress.

<sup>1</sup>Since this article was written, official decisions, consequent on the report of the Inter-Departmental Committee on the Medical Services, have been promulgated. These, it is hoped, will improve the situation as depicted by the writer.

#### APPENDIX.

##### (1) MEDICAL ORGANIZATION IN THE FIELD.

|                   |   |                                      |
|-------------------|---|--------------------------------------|
| Collecting Zone.  | Regimental Medical Establishments<br>Field Ambulances<br>Field Hygiene Sections                                   | Divisional Units.                    |
| Evacuating Zone   | Motor Ambulance Convoys<br>Casualty Clearing Stations<br>Advanced Depots of Medical Stores<br>Mobile Laboratories | Non-divisional (Corps & Army) Units. |
| Distributing Zone | Ambulance Trains<br>General Hospitals<br>Convalescent Depots<br>Base Depots of Medical Stores<br>Hospital Ships   | Line of Communication Units.         |

##### (2) FIELD AMBULANCE.

Headquarters and Two Companies.  
 Establishment : 8 Medical Officers.  
                   1 Quartermaster.  
                   1 Dental Officer.  
                   151 R.A.M.C.  
                   60 R.A.S.C.  
 Horse Transport : 6 limbered G.S. Wagons.  
                   1 Kitchen, travelling.  
                   1 Mess Cart.  
                   1 Maltese Cart.  
                   3 Water Carts.  
                   4 Horsed Ambulances.  
                   Total Horses 46.  
 Motor Transport : 3 Light Lorries.  
                   8 Motor Ambulances.  
                   3 Motor Cycles.  
 Road Space 380 yards (approx.).

- (3) FIELD HYGIENE SECTION.  
Personnel : 28 (1 Officer).  
Transport : 2 Motor Vans.  
1 Disinfector.  
9 Bicycles.
- (4) MOTOR AMBULANCE CONVOY.  
H.Q. and 3 Sections. 75 Motor Ambulances.  
Personnel : 182—Medical Wing : 1 Officer.  
25 Other Ranks.  
Transport Wing : 3 Officers.  
153 Other Ranks.
- (5) CASUALTY CLEARING STATION.  
Personnel : 95, includes : 7 Medical Officers.  
1 Quartermaster.  
1 Army Dental Officer.  
3 Chaplains.  
Transport : 2 Three-ton Lorries.  
Capacity : 200 Casualties.
- (6) ADVANCED DEPOT OF MEDICAL STORES.  
Personnel : 9 (1 Quartermaster and 8 Other Ranks).  
Transport : 1 Motor Van.
- (7) MOBILE LABORATORY.  
Personnel : 7 (2 Officers).  
Transport : 1 Motor Car.  
1 Laboratory Lorry.
- (8) AMBULANCE TRAIN.  
Personnel : 48 (3 Officers) ; also 3 Nursing Sisters attached.  
Capacity : 396 Lying Cases.
- (9) GENERAL HOSPITAL.  
1,200 Beds.  
Personnel : 256, includes : 30 Medical Officers (also 80 Nursing Sisters attached).  
1 Quartermaster.  
1 Dental Officer.  
3 Chaplains.
- (10) CONVALESCENT DEPOT.  
Personnel : 107, including : 4 Medical Officers.  
1 Adjutant.  
3 Duty Officers.  
1 Quartermaster.  
1 Dental Officer.  
3 Chaplains.  
Capacity : 2,000 Men.
- (11) BASE DEPOT OF MEDICAL STORES.  
Personnel : 22, includes 2 Quartermasters.
- (12) HOSPITAL SHIP.  
Medical Personnel : 89, includes : 7 Medical Officers.  
18 Sisters attached.  
Capacity (nominal) : 700 Beds.

## FIELD INTELLIGENCE IN THE ARMY: THE USE OF GROUND OBSERVATION

By BREV. MAJOR B. C. DENING, R.E., p.s.c.

THERE appears to exist at the present time a very considerable misunderstanding as to the functions and methods of Intelligence work in the field. This can only spring from ignorance, for such a regrettable lack of interest in this all-important subject may be ascribed almost entirely to the effects of peace conditions. The following notes, based upon experiences gained in the late war, are therefore put forward in the hopes that they may assist in counteracting this lamentable tendency.

To begin with, Field Intelligence is undoubtedly and very commonly confused by many with Secret Service work, to the detriment of the former, since many officers who cherish this illusion conclude that the understanding of the problems of Intelligence is not for them, or that there is behind it some "black magic" into which, in the interests of secrecy, no enquiry should be made. This is indeed a dangerous fallacy, for there are many aspects of Intelligence that are very much the concern of every single soldier, if not also of every sailor and airman. It is, of course, true that the immediate sources from which information is being at any time obtained may be, at that moment, strictly secret, but a general dissemination of knowledge as to our war methods of intelligence can only be of benefit, both in preventing a leakage of information to any enemy by thoughtless action on the part of our forces, and in increasing the volume of facts obtainable about the enemy by our troops. A second prevailing misconception is that successful results accrue more from information obtained by cunning and good fortune than from that obtained by more ordinary, dull, methods. Actually there can be no question that the reverse is in fact the case. A study of any of the Intelligence systems of the past, such as that of Napoleon at the beginning, and that of Germany at the close, of the nineteenth century, bears out the fact that good Intelligence was obtained rather by careful organization than by brilliant coups popularly associated with the work of secret agents. Dependence upon Secret Service alone would be sheer stupidity under modern conditions, where the employment of the telegraph and up-to-date police methods has rendered the life of would-be spies not a little precarious. Admitted that a sound organization is necessary, it can only be found where it has, to a large degree, been based upon forethought and previous preparation. Thought, discussion and teaching, on this subject in peace time are, therefore, highly desirable.

Intelligence in the field may be obtained from one of many sources, such as air observation and photography, information from troops, interception of wireless telegraphic or telephonic messages, prisoners, captured documents, local inhabitants, neutral and enemy Press, in addition to Secret Service methods. Examples could be quoted from the late war in which all these methods were applied to any given situation. It would be most unwise to select one method as being of greater value than the rest, since each may turn out to be the most profitable in a specific set of circumstances. There is a tendency perhaps to overestimate the advent of the aeroplane as an aid to Field Intelligence, especially when dealing with forces small in numbers, or else in country offering concealment from the air, and, last but not least, when troops have been taught how to make themselves less conspicuous. Flight-Lieutenant R. L. Stevenson, M.B.E., R.A.F., in a recent article, "Notes on Concealment from the Air Observer,"<sup>1</sup> has indicated a number of the limitations from which the airman suffers in his attempt to procure information. Certainly, one striking result accruing from the advent of the aeroplane when employed as a source of information has been to throw somewhat into the background the necessity for pursuing and maintaining our knowledge of the other older and tried methods of Field Intelligence. Judging by reports of the Army manoeuvres of 1925, one remarkable fact has come to light, namely, the manner in which forward troops, when once contact had been gained, managed to lose sight of the enemy. It is only possible to hope that this highly important faculty has been but temporarily lost.

It is with this great and invaluable source of information, *the troops in the front line*, that the remainder of these notes will deal.

It has been emphasized for many years past that it is the responsibility of every officer and of every man, of whatever arm, to obtain all information possible of the enemy and to report it to higher authority. Normally, reports might be expected from infantry and cavalry patrols, from artillery observation posts and from the reconnaissances of staff officers. The theory held before the war was that the above methods of obtaining reports would suffice. Given highly trained regular troops, it is possible that the theory may still be true to-day. The Great War showed, however, not only that the highly trained regular is very soon used up on the battlefield and replaced by the less trained, but that, without aids such as telescopes, special maps and technical knowledge of the doings of the enemy, little intelligence could be obtained by units in the line, without offensive action such as raids with artillery preparation, a method costly both in life and in shell. This was the case even in the conditions of static warfare. But when once an advance commenced, communications became so blocked or disorganized, troops were so busy fighting or being relieved, that fragments only of

<sup>1</sup> The "Army Quarterly," January, 1926.

intelligence reached the controlling centres behind from troops in action. The fact became apparent that modern war is so exhausting for the individual at the front that he has no energy to spare on what appeared to him an academic pursuit of information. It became obvious in course of time that if Corps, Armies and G.H.Q. were to obtain timely news of events during the big fighting, special steps must be taken to acquire the desired information.

In the first instance, it was realised that if men engaged in observing the enemy, belonged to units in line, they would be subjected to relief every time the unit left the line. The advantages of maintaining continuous observation by the same trained observers led to the organization of groups of observers under the direct control of formations. At first Brigade and Divisional Observers were collected, under, respectively, the Brigade and Divisional Intelligence Officers. They were provided with field glasses and maps and much useful observation work was done. Later, in certain Corps, Corps H.Q. also possessed observer groups, composed of picked men of the Lovat's Scouts Battalion. These men, trained from childhood in the art of deer-stalking in the highlands of Scotland, armed with their own telescopes, were the most suitable that existed anywhere in the world for the task in hand. Unfortunately, their numbers did not permit of an allotment to all the Corps in France.

During periods of static warfare, it was customary, in order to prevent overlapping, to divide the visible terrain behind the enemy front line into zones, to be allotted, when they existed, respectively to Brigades, Divisional and Corps Observers. In one instance, Brigades were responsible up to a depth of 1,500 yards, Divisions 1,500 yards to 4,000 yards and Corps everything within view beyond that. The observation points were linked up by telephone with headquarters and the system gave good results even in the midst of the biggest battles.

In view of the fact, however, that we hope that the future will bring us wars of motion, the use of ground observation in static warfare is not of such interest as are its possibilities in mobile or semi-mobile warfare. The following is an account of such a use of observers by the IXth Corps during the closing weeks of the campaign in 1918.

The IXth Corps, composed of the 1st, 6th, 32nd and 46th Divisions, went into line opposite the German Hindenburg Line on the 11th September, on the extreme right of the British front near St. Quentin, and in the course of two months, fighting five main battles, advanced to the Avesnes area, a penetration of some 50 miles. The conditions very fairly represented such as might prevail in future.

Prior to the first big battle on 29th September, application was made to G.H.Q. for a platoon of Lovat's Scouts. A second battalion of Lovat's Scouts having recently come to France from Salonica, the importance of observers was so realised at G.H.Q. that even at this period, when a number of Divisions were so short of men as to be



reduced to cadres, the battalion was broken up and a detachment furnished, amongst others, to IXth Corps. The detachment was known as No. 10 Group Lovat's Scouts, and possessed two officers and twenty to twenty-five men. It was supplied at Corps H.Q. with the following :

- 1 G.S. wagon containing tent, blankets, etc.
- 1 Wireless mast, with two signalmen from Corps Signal Co.
- Telescopes.
- Signal lamps.
- Pigeons.
- Bicycles.

The method of working of the Group is illustrated on the attached diagram. The Scouts were divided into two parties, the one charged with observation, the other with the collection of information from prisoners.

The observers took up positions at two or three places as dictated by the ground, upon the most suitable available terrain for overlooking the battle area. These are indicated upon the diagram by the letters "O.P." The country where the operations took place was fortunately not flat. In flat country, trees and buildings would no doubt have been utilised. From the O.Ps. continuous daylight observation was maintained with telescopes over all visible enemy terrain. During battle, or even in the intervening periods of calm, messages of importance were sent back from the O.P. by morse, using signal lamps to the W/T mast, erected on a suitable spot to the rear. From the mast, messages were transmitted direct to Corps H.Q., at times twenty miles distant. At Corps H.Q. the messages were telephoned from the receiving station to the Intelligence Office, where an officer, continually on duty, plotted the information on a special map. Generally messages related only to the enemy and were sent in clear. A Lovat Scout officer established his headquarters at the wireless mast and used his discretion as to the necessity for en-coding messages relating to our own forces.

The party of Scouts detailed to watch for prisoners worked somewhat similarly. It was of the greatest importance to G.H.Q. to obtain early knowledge of the enemy formations identified in the fighting. Scouts were posted at likely junctions of roads and tracks, where prisoners were bound to pass (points "A" and "B" on diagram). They had been previously shown whereabouts upon a German soldier to look for identification marks, i.e., on the shoulder strap or on the identity disc carried round the neck. The sight of a small scout demanding to inspect the identity disc of a big German in his best Scotch was one good to behold. At times these Scouts were assisted by an interpreter who gained additional information by interrogation. Messages were carried by cyclist to the wireless mast and signalled thence to Corps H.Q.

The system proved a great success, since during a battle continuous reports were received of events actually seen. As progress was made,

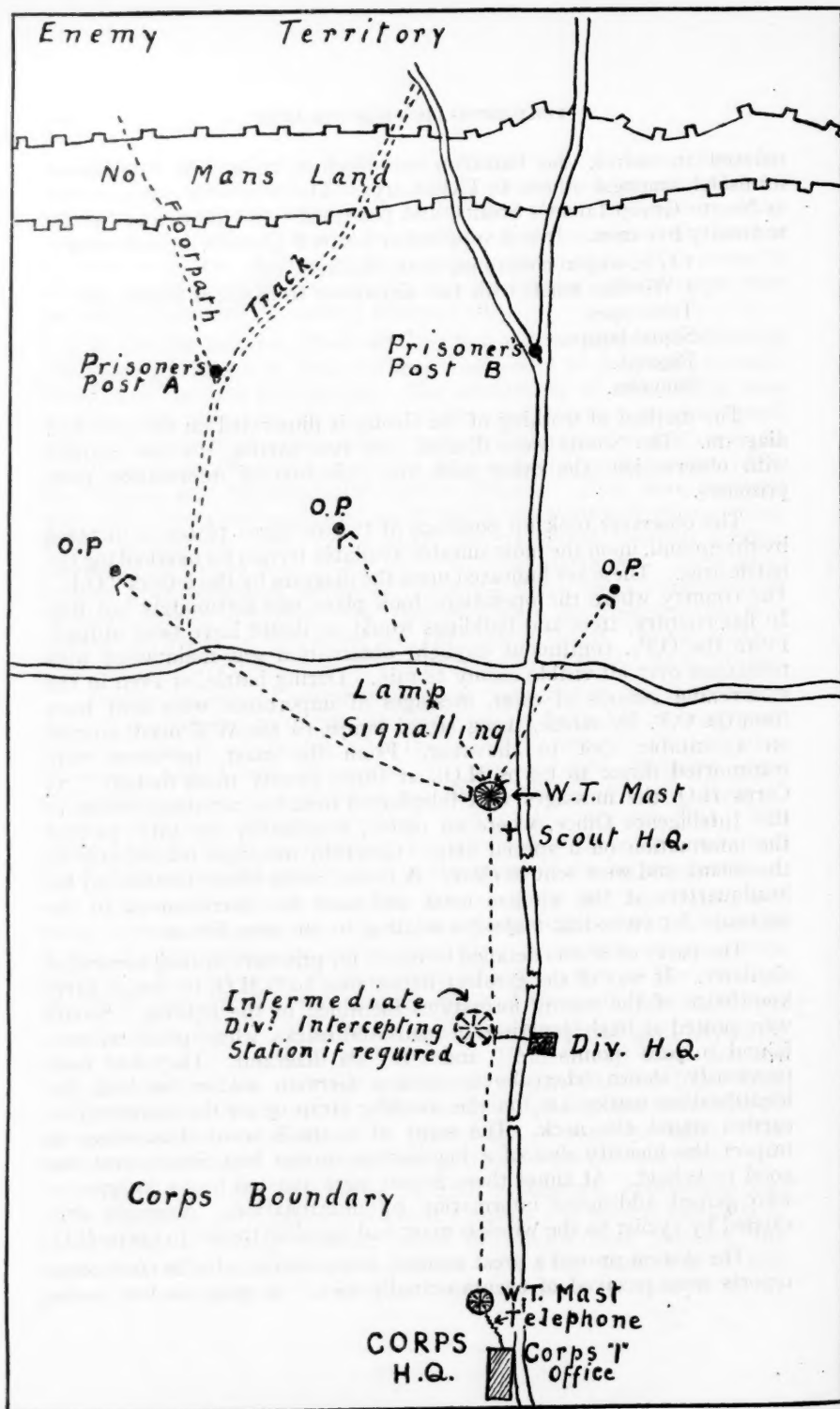


Diagram illustrating Use of  
Corps H.Q. Observation Group in Moving Warfare.

the Scouts moved forward in bounds, carefully prepared beforehand, one wing at a time. News on the average took two hours from the time the occurrence was seen by telescope to the time it reached Corps H.Q., a period which compared very favourably with the time required to obtain news through normal channels. Prior to the retirement of the German front to the Le Cateau line on 8th October, though such withdrawal was anticipated, first news of its commencement came from a Lovat Scout who reported in the afternoon having seen a German officer waving to his advanced detachments, which thereupon left their positions and moved to the rear. Early information of this type was of the greatest value in enabling timely orders for the pursuit to be prepared.

By the prisoner-interception method, when the front broke on 4th, 5th and 6th November, in one day the Scouts identified four German Divisions, while no news on this point was received from any other source.

*Conclusions as regards the future.*—The experience of the last war shows that it is necessary to prepare all the various means available for the procuring of Intelligence in the field. Particularly is it necessary to supplement Air and Secret Service sources by that invaluable method, the ground observation work of the troops. All troops in peace time should be trained in the art of continuous reconnaissance, for many eyes are better than a few. In addition, this experience of the working of the ground observation groups in the last war leaves a conviction that some similar type of organization will be invaluable in future, whatever the type of warfare may prove to be. Unfortunately there exists no establishment for either a Corps or Divisional Observer Group in peace and on the outbreak of war there is likely to be delay in their creation. Yet Lovat Scouts have been retained as a unit of the post-war Territorial Army and are shown in the current Army List as Army Troops. A scheme whereby this unit should find such Observation Groups in war should not, therefore, possess insurmountable difficulties.

It is essential that such groups should be organized on a basis of one per higher formation (in a small war one per Division, in a great war one per Corps) to avoid the disturbance of frequent relief. To keep pace with modern operations mechanical transport, in place of the wagon and bicycles used in 1918, would be necessary.

No Army should have cause, in war time, to regret any small expenditure found necessary in preparing an efficient Intelligence Service for work in the field. Lastly, one may ask whether there is any reason why battalions of Scouts as outlined above should not be organized in Canada, Africa, Australia or in the Himalaya, wherever there exists a type of man who is fitted, both by nature and by his mode of life, for the delicate and strenuous tasks of Intelligence in the field?

## PAYMENT OF SOLDIERS: ITS ORIGIN AND HISTORY

By CAPTAIN T. J. EDWARDS,  
The Somerset Light Infantry (Prince Albert's).

SOLDIERS of all time fall into three main classes, i.e., the unpaid citizen soldier who fought in the defence of his country simply as a duty; the hired mercenary who fought for the highest bidder for his services; the paid (or—frequently—scarcely paid) professional citizen soldier. It is, consequently, of some interest to trace the circumstances which led to the employment of the paid citizen soldier from the earliest record until the time when he became a part of the national organization as a unit of a standing army. Possibly very few will agree with Macaulay in his definition of a soldier's pay as "the tribute of national gratitude"<sup>1</sup> when it is remembered that in former times, as now, the professional soldier was habitually blessed with dependants and something approaching a living wage would be required for their subsistence.

The social status of the soldier has varied considerably. In Rome, before the II<sup>nd</sup> century B.C., a man who did not own property was not permitted to undertake the honourable if hazardous duties of a soldier, and this disqualification was only removed by force of circumstances in 104 B.C. As late as the XVII<sup>th</sup> century in the Spanish Army "the social position of the soldier was that of a gentleman, and the young nobles thought it no shame, when their commands were reduced, to 'take a pike' in another regiment." From these lofty heights we descend to the practice of admitting into the Army, as soldiers, pardoned criminals for foreign service.<sup>2</sup>

The course of events which led to the evolution of the paid professional soldier has been much the same in all countries. At the dawn of history we find a country disturbed by family feuds and tribal wars. The unpaid voluntary fighter then predominated, for "the armed forces" were synonymous with the tribe that supplied them. Then there followed a period of national stability, usually under the government of the leader of the successful tribe. It is only when the "national" spirit began to assert itself that we find a unifying cohesive force operating among the several distinct tribes, states or other minor divisions of a country. This national spirit emerged more rapidly when

<sup>1</sup>Essay on Machiavelli.

<sup>2</sup>Grose, "Military Antiquities," pp. 75 and 98 (Note).

the country was threatened with invasion by a common foe, for when a nation actually began to think "nationally," security was always one of the first questions to receive attention and some form of military system resulted. Hired mercenaries were never the basis of any national military organization. They were too uncertain a quantity, selling their services to the highest bidder; so the nation that employed them always ran the risk of their changing sides during a campaign. It was when the successful and stabilised nation began to think of acquiring an empire that mercenaries were employed; but to maintain an army of occupation in the conquered territory, where love and pride of country were possibly the only qualities which maintained the spirits and dependability of the troops, the native troops of the conqueror perforce preponderated. Nationalism and imperialism are, therefore, chiefly responsible for the institution of the payment of soldiers because the native citizen, who had an interest in the country or empire, was a reliable unit. His military service also became increasingly lengthy in order to cope with foreign wars. As the fighting man would naturally leave dependants at home, so he had to be paid a wage in order to support them.

At the present day the term "soldier" applies to a member of that part of the army which comes under the general heading "other ranks," i.e., warrant officers, N.C.O's. and men.

The word "soldier" has a double connection with the Latin, viz., *Soldus*, hire, and *Solidus*, coin; a hired man who fights for money. It is not known with any certainty when the practice of paying soldiers originated. Of course, to-day, soldiers of all civilised armies are paid at a certain rate, but there were periods in the history of all the great countries, both past and present, when soldiers have not been paid. These periods were not universally co-existent, but varied with the dictates of circumstances. In the record of these circumstances lies the romance of such a prosaic subject as the payment of troops.

The chief circumstances which caused fighting men (not mercenaries) to be paid were (1) the growing complexity of war demanding longer periods of training during which the soldiers would require money for their own subsistence and that of their dependants, and (2) the need of a standing army, particularly an army of occupation, normally experienced by a victorious nation.

The earliest record of the payment of soldiers appears to be with reference to those of Cyrus, the Persian King, the details of whose military system may be gathered from Xenophon and other writers. "To each province he appointed a military commander who was responsible for the number and efficiency of the troops in his district while the civil governor was answerable for their subsistence and *pay*."<sup>1</sup>

In Greece about the same period we find very different circumstances prevailing. "Under the conditions of Greek warfare, fleets were more

<sup>1</sup> "Encyclopædia Britannica."



expensive than armies. Not only was money needed for the building and maintenance of the ships, but the sailor must be paid, while the soldier served for nothing."<sup>1</sup> However, about the middle of the IVth century B.C. the armies of Greece gradually passed from an unprofessional to a professional status which, of course, would entail long service and payment for service.

In the Chinese "Book of War"<sup>2</sup> written in the Vth century B.C. there is a reference to the payment of soldiers and its bearing upon their efficiency, viz., "And Lord Wen said to Wu 'What about the Chins who threaten us on the West,' and Wu replied 'Pay is small, and the soldiers lack the spirit of sacrifice, thus they are well governed but cannot be used.'"

About 376 B.C. when Thebes was preparing for war against Sparta, she re-organized her military force and the famous "Sacred Band" was then instituted. This Band was a regiment of 300 Hoplites, composed of young and chosen citizens of the noblest families and so arranged that each man had at his side an intimate friend. It was supported at the public expense and always kept under arms with the special duty of defending Cadmea.<sup>3</sup>

Carthage, in the IIIrd century B.C. provides an interesting example of a state leaving the business of war, as far as the rank and file were concerned, entirely to mercenary troops. Carthage produced a series of great generals; but unsuccessful leaders were crucified, the mercenary soldiers were cheated of their pay and broke out into a mutiny which shook the empire of Carthage to its foundations. Here the question of "Soldier's pay," although the recipients were mercenaries on this occasion, was vitally connected with the stability of an empire.

A reference to the Roman Republican Army brings us to the eve of the Christian Era. During the earlier period of Roman history the army was drawn entirely from the first or upper classes of the population, who served without pay and provided their own arms and armour. The wealthiest men (*equites*) furnished the cavalry, the remainder the infantry; while the poorer classes either fought as light troops or escaped altogether the privilege and burden of military service. Marcus Furius Camillus appears to have instituted a system of long service and of paying soldiers in the IVth century B.C., but it was not until B.C. 104 that the system was effectually developed by Marius owing to foreign wars in Spain and the East. Moreover, the growth of Rome and of its heterogeneous population into a vast and wealthy State tended to wreck the old theory that every citizen was a soldier. Consequently, there came to be favoured a division of labour between the merchant and the

<sup>1</sup>"Encyclopædia Britannica."

<sup>2</sup>Translated by the late Lieut.-Colonel E. F. Calthrop, R.F.A.

<sup>3</sup>"Smaller History of Greece," p. 164, by Sir William Smith.

military, while the increasing complexity of war required a longer training and a more professional soldier. The old restriction of legionary service to men with some sort of private property was finally abolished by Marius in B.C. 104 and the legionaries now became wholly proletariate and professionals.<sup>1</sup>

During the 1st century B.C. several changes took place in the Roman Army among these being the numbering of legions introduced by Julius Cæsar, which gave rise to the growth of the regimental spirit and tradition. He also increased the soldier's rate of pay. Before his time it was about £4 per annum, but he raised it to about £7 10s. per annum. During this period "The term of service was, at least in theory, a full twenty years, but recruiting was voluntary and, when men were short, discharges were often withheld. On discharge the ex-legionary received a bounty or land; many *coloniae* (municipalities) were established in the provinces by certain emperors for the special purpose of providing for discharged veterans."<sup>2</sup>

From the Roman occupation of Britain until the Norman Conquest, 1066 A.D., our country was in a very unsettled state. Large portions of the country, if not all of it, almost every few years changed hands among the English, Danes, Saxons and, later again, the Danes. The only definite military system which existed during this period was the *Fyrd*, a levy of the militia type, in which every freeman was bound to bear arms for the defence of his county. The *Fyrd* was of Anglo-Saxon origin and is first mentioned in the Anglo-Saxon Chronicle under the date 605. "Yet even in those days the necessity of some more permanent force was felt, and bodies of *paid* troops were maintained by Kings at their own cost. Thus Canute and his successors and even some of the great Earls kept up a household force (*huscarles*)."<sup>3</sup> John Richard Green also states that about 802-880 A.D. "The County was divided into military districts, each five hides<sup>4</sup> sending an armed man at the King's summons and providing him with food and *pay*."<sup>5</sup> Charlemagne had introduced a similar system about 780 A.D. and this was the forerunner of feudalism, the basis of which was that every three or four men should equip and maintain one of themselves as a warrior.

<sup>1</sup>See also Appendix A to "Cæsar—The Gallic War," by H. J. Edwards.

<sup>2</sup>In passing it is interesting to note that such a *colonia* was first established in Colchester (Camulodunum); later another was formed at Lincoln (Lindum), and in A.D. 96 another at Gloucester (Glevum). The establishment of these colonies of time-expired soldiers must have solved to a great extent the problem of re-settling the Roman veterans in civil life, a problem which is very acute in our army to-day. (For further discussion of this question, see the present writer's article, "The Nation's Debt to the Fighting Forces"; pp. 517-530, R.U.S.I. JOURNAL for August, 1925).

<sup>3</sup>"Encyclopædia Britannica."

<sup>4</sup>A "hide" was a portion of land sufficient to support a family in Anglo-Saxon days.

<sup>5</sup>Green's "History of the English People," p. 49.

At the battle of Hastings, 1066 A.D., it was Harold's body-guard of huscarles that held out to the end against the Norman invader.

William then introduced feudalism into England and, as his vassals held their lands from him on condition of military service when required, he would have no need to maintain a paid body of soldiers. But later in the XIIth century *scutage* or *escuage*<sup>1</sup> was introduced. Under this system a vassal or knight could make a pecuniary commutation of the military service due from him, scutage being the assessed money equivalent of such service. "This money enabled the King to pay such of the feudal troops as were willing to serve beyond the usual time." From being something in the nature of a knight's privilege, scutage became a levy owing to the increased use of hired mercenaries for campaigns abroad. The amount originally "demanded was a marc (13s. 4d.), a pound or two marcs, but anything over a pound was deemed abnormal till John's reign when levies of two marcs were made in most years without even the excuse of a war. The irritation caused by these exactions led the barons to insert in Magna Charter a clause that 'no scutage or aid shall be imposed in our realm save by the common council of the realm.'" This restriction on the levying of scutage directly affected the employment of feudal soldiers who were paid for service beyond the normal period of forty days.

The record of some of the important incidents of national interest in the XIVth century show that there was a definite military system in Britain in which the paid professional soldier played an important part. "Edward III realised that there was better material to be had in his own country than abroad, and the army with which he invaded France was an army of *national* mercenaries or, more simply, of English soldiers. From the pay list of the army at the Siege of Calais (1346) it appears that all ranks, from the Prince of Wales downwards, were paid, no attempt being made to force even the feudal nobles to serve abroad at their own expense."

When we come to the XVth century, we find that "Copies of the indentures executed when Henry V raised his army for the invasion of France in 1415 are in existence. Under these the contracting party agreed to serve the King abroad for one year, with a given number of men equipped according to agreement and at a stipulated rate of pay. The profession of arms seems to have been profitable, the pay of a soldier was high as compared with that of the ordinary labourer." To secure the services of the soldier during his contract, acts were passed (18 Henry VI c. 19; and 7 Henry VII c. 1) inflicting penalties for desertion; and in Edward VI's reign an act "touching the true service of captains and soldiers" was passed. It was somewhat of the nature of a "mutiny act."

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<sup>1</sup> Derived from *scutum*=shield; literally "shield-money."

There are one or two interesting side-lights in Shakespeare on the "soldier's pay" in the XVth century; thus, in the Second Part of King Henry VI, Act III, Scene I, when the Duke of York is speaking to the Duke of Buckingham concerning the Duke of Gloucester:—

"YORK.—And did he not, in his protectorship  
Levy great sums of money through the realm  
For soldiers' pay in France, and never sent it?  
By means whereof the towns each day revolted."

Then the Duke of Gloucester joins the Duke of York who mentions the same subject to the Protector:—

"YORK.—'Tis thought, my Lord, that you took bribes of France  
And being Protector, stay'd the soldiers' pay;  
By means whereof his highness hath lost France.

"GLOUCESTER.—Is it but thought so? What are they that think it?  
I never robbed the soldiers of their pay.

\* \* \* \*

No; many a pound of mine own proper store,  
Because I would not tax the needy Commons,  
Have I dispersed to the garrisons."

The historian, Green, while agreeing with Shakespeare regarding the "levy of great sums of money" for the soldiers' pay in France, adds a very interesting note regarding "sailors' pay," in that in 1499 "when the Bishop of Chichester was sent to pay the sailors at Portsmouth, and strove to put them off with less than their due, they fell upon him and slew him."

The "*relazioni*"<sup>1</sup> of the Venetian Ambassadors in England to their Council in the XVIth century touch upon the English soldier of that period as shown in the following extracts:—<sup>2</sup>

Under date October, 1513, Nicolo de Favri, attached to the Venetian Embassy in London, states:—"They were men who did not rob but to gain honour, and who marched at their own cost."

In September, 1519, Sebastian Giustinian, Venetian Ambassador to England, wrote:—"They insisted on being paid monthly."

In 1545, Henry VIII "was forced to arm and pay a vast array of shire levies to meet the attack" of the French.<sup>3</sup>

In 1561, Mary Queen of Scots, who had recently become a widow owing to the death of her consort, Francis II of France, returned to Scotland from France, and strange to say this event caused the English

<sup>1</sup>The "*relazioni*" were reports.

<sup>2</sup>Reproduced in "The Journal of the Society of Army Historical Research," Vol. 1, pp. 200 *et seq.*

<sup>3</sup>Oman's "History of England," p. 305.

soldier's pay to be increased. Elizabeth was on the throne of England at the time and she became anxious for the safety of her realm owing to a probable alliance of Scotland and France against her. One of the safety measures which she adopted was "to increase the wages of the marines and soldiers to encourage them to serve her well."<sup>1</sup> No doubt this form of encouragement would be greatly appreciated by most Service men—even at the present time.

The letter written by Sir John Harington, probably in 1598, to his confidential servant, Mr. Combe, gives details of the pay of officers and soldiers of the time of Queen Elizabeth as shown in the following extract<sup>2</sup>:—"I must not forget nor cease to tell Her Majesty's good, wise and gracious providings for us, her Captains and our soldiers, in summer heats and winter colds, in hunger and thirst, for our backs and our bellies. This is to say, every Captain of a hundred footmen doth receive weekly, upon every Saturday, his full entainment of 28 shillings. In like case every Lieutenant 14 shillings; an Ensign 7 shillings. Our sergeant surgeon, drum and fife, 5 shillings pay, by way of imprest, and every common soldier 3 shillings, delivered to all by the pole, weekly. To the four last lower officers 2 shillings weekly, and for every common soldier 20 pence weekly is to be answered, to the full value thereof, in good apparel of different kinds, part for winter and part for summer which is ordered of good quality and stuff for the princes."

It is very evident from these extracts that the system of paying citizen soldiers was approaching stabilisation in the XVIth century. The constant need of a trained army to deal with Ireland, Scotland, France and Spain together with the introduction of the Artillery train under Henry VIII were circumstances responsible for the maintenance of a permanent and paid force for long periods.

The first standing army raised in this country was the "New Model" of the Commonwealth. In 1645 it was generally felt that the armies of Parliament would fare much better if they were entrusted to professional soldiers and not to great peers and prominent politicians. Hence came the celebrated "Self-denying Ordinance." At the same time the Parliament resolved to re-model its army. Much inconvenience had arisen from the miscellaneous nature of the forces which took the field. County militia, London train-bands, voluntary levies, "pressed-men" forced to the front, local organizations like the "associated counties" had served side by side in some confusion. The conscripts were wont to desert, the militia protested against crossing their county boundary, the train-bands melted back to their shops if they were kept too long under arms. To do away with the troubles, Parliament then created the "New-Model Army," a standing force of some 20,000

<sup>1</sup>"Queen Elizabeth," by Agnes Strickland.

<sup>2</sup>Reproduced in "The Journal of the Society of Army Historical Research," Vol. 3, p. 7.



picked men.<sup>1</sup> It was paid from public funds and according to Guizot,<sup>2</sup> was to cost at the outset £56,135 a month. This force remained in being until 1660 when it was disbanded by Charles II at the Restoration. The method of raising funds for the payment of this army usually fell most heavily upon those who had supported Charles I and an ordinance of the Council of State "enacted that all who had at any time borne arms for the King should pay every year a tenth part of their income as a fine for their royalist tendencies."

The new army did not settle down to its new conditions without giving a certain amount of trouble, but "the discontent among the soldiers was of no very marked character, and they resigned themselves without difficulty to their new leaders. The Parliament gave them a fortnight's pay, and ordered that the confiscated estates of some of the delinquents should be sold to satisfy the most pressing demands."<sup>3</sup> In March, 1647, a loan of £200,000 was opened in the City to pay some disbanded troops a portion of their arrears of pay. Further trouble was threatened in May, 1647, when it was proposed to disband more troops, and in order to avert it "Two month's pay, instead of six week's as first voted was promised to the troops."<sup>4</sup>

Although the New-Model Army was continuously in being for fifteen years (1645-1660) and was paid by money voted by Parliament, the foundation of the present standing army was laid in 1660 by Charles II, when he disbanded the New-Model and raised new regiments of his own by voluntary enlistment and paid them from money voted by Parliament. Although the rate of pay and system of payment have undergone many changes since that date, there is an unbroken record of voluntary enlistment and payment of troops from money voted by Parliament down to the present day.<sup>5</sup>

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<sup>1</sup> Oman, "History of England," p. 393.

<sup>2</sup> Guizot, "History of the English Revolution," p. 264.

<sup>3</sup> Guizot, "History of the English Revolution," p. 269.

<sup>4</sup> Guizot, "History of the English Revolution," p. 322.

<sup>5</sup> "Pay, Allowances and Stoppages of Privates in Infantry, 1660-1891" and relevant Warrants.

## HUMAN NATURE AND THE SOLDIER

By CAPTAIN F. A. S. CLARKE, D.S.O., The Essex Regiment.

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*"Above all must it be remembered that success in war depends largely on a knowledge of human nature, and how to handle it to best advantage."—F.S.R.*

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HISTORY shows that the great commanders of the past achieved their successes as much owing to a knowledge of human nature as by the employment of superior strategy and tactics. In fact, their plans and the risks they took were largely based on their insight into the personality of opposing commanders and into the characteristics of their troops.

Napoleon, Wellington and Lee are striking examples of this truth. Thus we are told by Henderson in his "Science of War" that Napoleon found in the history of the campaigns of Alexander, Hannibal and Cæsar a study of human nature as affected by war. Lee and his lieutenant, Jackson, followed the master's advice to "read and re-read the campaigns of the great captains." Neither did they misunderstand his meaning, as is done by those who pretend that there is nothing to be gained by the study of military history. Lee and Jackson had the further advantage of knowing their adversaries personally; and so too, probably, did Lincoln. The Confederate leaders again and again turned their knowledge to good account, as when Lee on more than one occasion struck at Lincoln's weakness, his anxiety for the protection of the Federal capital, thereby inducing the Federal Commander to divide his forces.

It is clear, however, that the study of human nature is not only required for the purpose of outwitting an adversary, but also in order to obtain the best from one's own troops. Napoleon was a brilliant example of both these points of view. The handling of their men seems always to have been a strong point with British officers, especially in dealing with Asiatics. We still find, as the late Colonel Henderson puts it, "great armies of dark faces loyally obedient to a handful of white officers." Even to-day, old Indian soldiers will relate with pride how they served with Roberts Sahib Bahadur, or with still greater pride that they once were detailed as his "*Ardeli*." The name of "*Nikalseyn*" still survives in song and story among the martial races of the Punjab. What was the spell these men cast over the "Lances of the North?" It was their deep insight into human nature. It is said that just before the Mutiny there still existed some British officers with the Bengal regiments

who had a great influence over their men. On the outbreak of the Mutiny the ringleaders, who had marked down these outstanding characters, tried to get rid of them first. Evidently they knew the "human nature" both of the Englishmen and of their own countrymen. There is no need to dilate upon the relations existing between the officers and men of the old regular army in 1914.

It follows then that the soldier must study this subject, both to outwit an adversary and to command his own men. Indeed, we are reminded in Field Service Regulations that the psychology of the enemy people requires to be studied.<sup>1</sup> We know the importance of this knowledge in "uncivilized warfare," where the whole plan of campaign may be based on the knowledge of how the enemy's human nature will affect the course of the whole campaign. So our methods can be modified accordingly. This is because, in such circumstances, we are fighting a people not an army. Such war is conducted between nations and national characteristics, not between their fighting forces only.

This knowledge is now-a-days becoming more than ever important in view of the possibility of using aircraft to attack large centres of population. Will such action end the campaign, or will it rouse greater hate and cause a nation to fight on with greater tenacity until its whole resources on land and sea and in the air have been utterly exhausted? The answer lies very largely in the psychology of the race.

The Germans, in spite of their study of war, in 1870 made a bad mistake touching the psychology of the French nation, and appear to have learned little from it. After Sedan, they thought resistance would disappear with the fall of Paris, which city, so they believed, would only hold out for a few days of actual siege; so they made their arrangements accordingly. They were not prepared for the People's War which dragged on for months throughout France and absorbed the whole strength of the German Army to bring it to a close.

If the average officer be asked what he knows about psychology, he will most likely reply "nothing." Yet many of the things that daily we do unconsciously, or because "it is done in the regiment," form part of the moral training of the men, which is no more nor less than training based on knowledge of mental and psychological characteristics. By constant association with men we gain knowledge of human nature, both singly and in bulk. We thus learn how to handle our particular type of man, and quite junior officers can successfully apply the acquired methods to soldiers of various races, from Assyrians to Hausas. Some of us know from first hand experience what men will do in war and how to keep them at their best.

The following instance may be adduced as an excellent instance of the application of psychology to troops in war. The behaviour of a

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<sup>1</sup> F.S.R. II. 5 (2).

certain unit after two years of the Great War was not so good as it might have been. But a new commanding officer arrived and set to work to foster a new spirit. He soon instituted a system of presenting regimental buttons to every man as soon as well reported on by his section commander. All drafts were awarded their buttons in the same way after they had proved themselves worthy of the distinction. The presentation was made the occasion of a little ceremony and the buttons formally handed over by the commander on parade. This unit soon ceased to be one of the "might have been" class. This officer may not have thought of "psychology" or even have known what it meant. He may have called it fostering *esprit de corps*. But he played upon human nature in a way that intuition prompted him by reason of his experience of men.

How is the soldier to increase his practical knowledge, or to prepare himself for something more than this? Presumably by study, but study of what? It is somewhat of a task to "read and re-read" the campaigns of the great captains up-to-date, especially in such a manner as to extract useful lessons as to how to influence the human nature of the soldier. Some may assert that this want can only be filled by observation and experience. But history proves the value of study, while personal experience may only cover a very restricted field. Many of us will read "The Life of Stonewall Jackson," yet how many will do so with the object of drawing lessons on human nature therefrom? But in this book there stands revealed the weaknesses of non-regular armies in war, a subject essential to every British officer. The stories in "The Green Curve," not so well known now-a-days perhaps as they deserve to be, are founded largely on pure psychology: for instance "The Second Degree." Though they may provide food for thought these are but stories after all. On the other hand, it does not appear profitable to grapple with the high faulting words and "ologies" of works on psychology which after all do not treat the subject from the regimental officer's point of view.

Moreover, the unsurmountable obstacle remains in the fact that the human mind cannot be subjected to generalizations. Hence the utter impossibility of compiling a text-book or a manual which will lead to success. If it were, war itself could be reduced to the level of a game of chess, where sheer intellectual power and study can triumph over nearly all human qualities. Psychology cannot be an exact science and cannot be regarded as such.

Nevertheless, it must be realized that something can be done although the subject is so immense. The General Staff cannot be expected either to produce and issue a library on the subject or to provide a brochure which can only prove inadequate. It might have been stated some thirty years ago that the accumulated experience of war was too vast

and complicated to be put into one small book, but Field Service Regulations has appeared. Therefore every officer should read, think and inwardly digest a few military history text-books and his training manuals. The more he studies and the higher he rises, the deeper can be his reading. He must study also irregular warfare as it has been put down in print, memoirs of soldiers and the like. As soon as he possesses something to start upon, his interest in this vast subject will rapidly grow and can be quickly increased by listening to lectures and reading papers in the Service journals. The subject appears to be one of endless possibilities.

We have to remember that our army is largely composed of cadres. The regular officer learns to command in peace; he learns something of human nature; he acquires some of the "tricks of the trade." The non-regular officer probably does not start with these advantages. He will find a section devoted to the psychology of command in Field Service Regulations, and a few paragraphs devoted to moral training in his manuals. His difficulty begins when he starts to apply what he has read, unless he happens to be blessed with the right kind of personality.

Accordingly, might it not be suggested that, although it may be an impossibility to produce a military text book on "Human Nature," it might still be found feasible to issue a small manual on *the art of commanding men*? Such a volume would be of great service, especially to the non-regular soldier who has neither the practical experience nor the time, after a declaration of war for prolonged study. What is required is not merely a bald statement of principles, but a guide as to how to apply them, just as, for instance, the chapters in the training manuals dealing with "protection," explain the methods of applying the principle of "security" to various conditions. Such a work—if suitably supplied with concrete instances—would greatly benefit the junior commander called upon to assume what to many must be an unfamiliar task.

But what of the officer who aspires to higher command? He must possess certain essential characteristics, fortified by a study of war.<sup>1</sup> This is not enough, he should be able to inspire confidence, maintain the morale of his troops, and make his personality permeate his command. A "clever soldier" may be no commander: here, again, we are faced with the question of human nature. Therefore, he who wishes to fit himself for higher command should not omit to study and improve himself thereby—as far as he can—for this task. At the present time there is no single volume in the English tongue that treats of the "art of command." The suggested manual should therefore deal not only with the knowledge required by junior regimental commanders, but it must also treat the subject from the point of view of higher command. In addition to an official elementary manual, there would thus seem to be room for a work on the "art of command" from a more advanced point of view. It should illustrate in clear and simple language the art

<sup>1</sup> F.S.R. II. 10.



of the great commanders and include examples to illustrate the reasons for success or failure, not forgetting the psychology of the combatants engaged. Such a book might well be fathered by, or at least receive the blessing of, the Committee of Imperial Defence, as it would be of value and interest, not only to soldiers, but to all services entrusted with the destiny of the Empire.

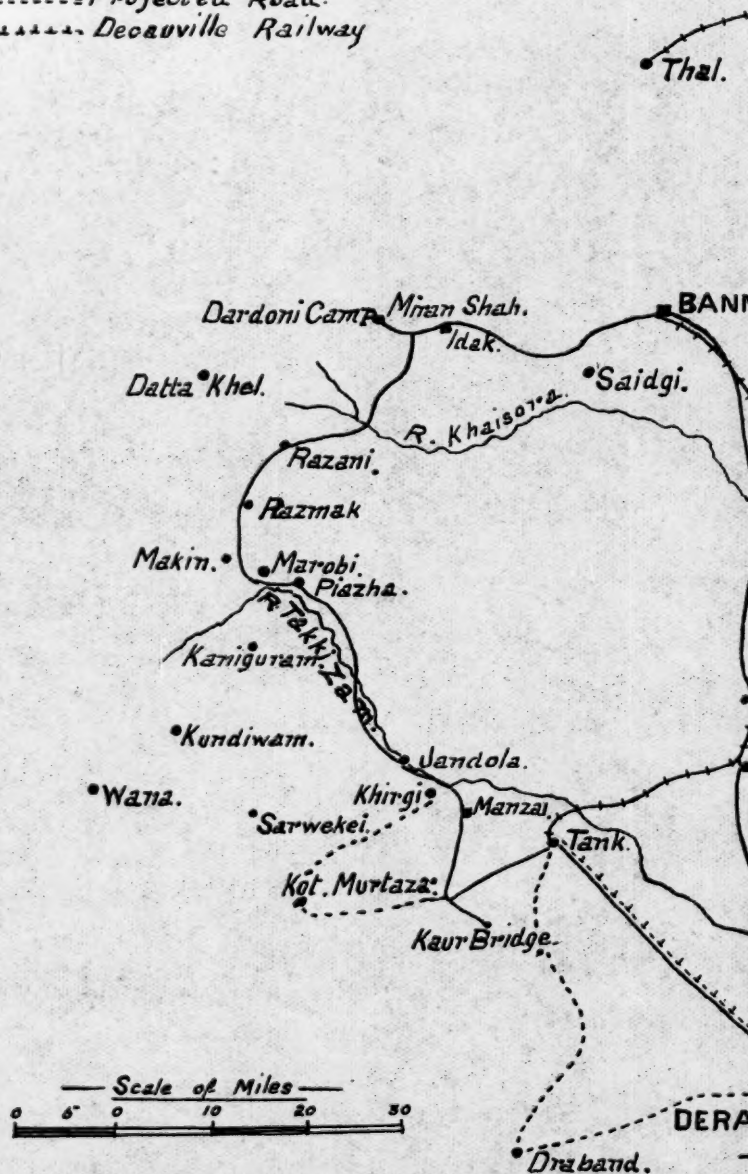
Many fresh aspects in which this subject plays a basic part will come to light; some of these are the training or improvement of personality, i.e., the "*persönlichkeit*" of commanders and their staffs; propaganda and counter-propaganda; the effect of catchwords on the rank and file; the effects of chemical warfare, and many more. In fact it is perfectly clear—and the Great War bears out this statement to the letter—that the more completely do whole nations become drawn into war, the more important becomes the study of national and individual mental and moral characteristics—not only of the fighting man but also of the non-combatant population. In other words, psychology enters more and more into modern warfare.

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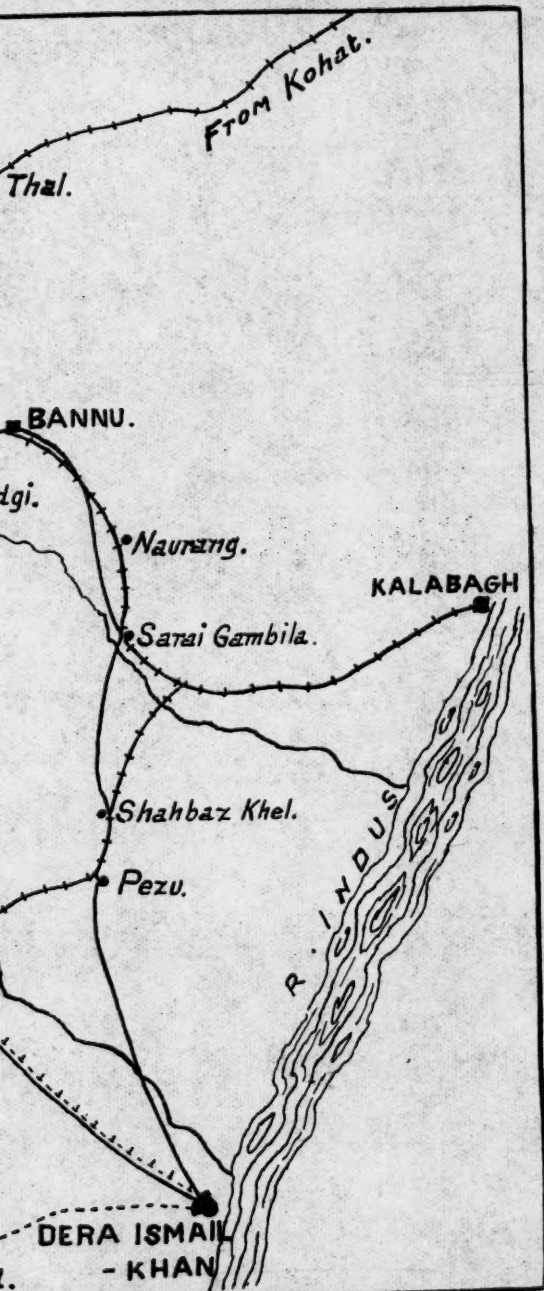


# A F G H A N I S T A N

- ++++ = *Narrow Gauge. Railway. 2' 6"*
- = *Waziristan Road.*
- = *Projected Road.*
- +++++ = *Decauville Railway*



THE WAZIRISTAN CIRCULAR



ULAR ROAD





## WAZIRISTAN CIRCULAR ROAD

By "ROUSSEAU."

FRONTIERS can only be advanced at the expense of others—a certain *casus belli*—and they only can be relinquished under external or internal pressure. Accordingly, frontiers are normally maintained only by the possession of armed force, and this fact postulates the capacity to move such forces.

The North West Frontier of India is no exception to this rule. It stretches from Chitral to Seistan, a distance of some six hundred miles, and thus marches with Afghanistan and Persia. To the south of Dardoni (see map) the true border of British India does not touch that of Afghanistan, though the latter is coincident with the "Indian Frontier" in the strict sense of the term. There lies between this Indian Frontier and the inner "Durand line" a strip of territory called "Independent Territory." In this belt of country there live the Wazirs and Mahsuds, tribesmen who from time immemorial have lived by brigandage and thus form a menace to the plain of the Indus. The difficulty that threatens from further west is no less; the Amir of Afghanistan is unable adequately to control his country up to the Indo-Afghan frontier and he has a similar problem to that of India, but possesses neither the resources nor the experience successfully to cope therewith.

It is with the object of controlling this Independent District that there has recently been constructed the "Waziristan Circular Road." A glance at the map will shew the lie of the country which is affected by this road, and also its relation to the roads and railways in adjoining areas.

The headquarters of the military district, within which the road wholly lies, are situated at Dera Ismail Khan—a place which, though uncomfortable in the early afternoon in the hot weather, is not the furnace of popular imagination. Years have passed since the Daman, the plain which stretches from the Indus to the hills beyond Tank, was described as arid and desolate, where men drink only once in a day, cattle every second day, and where washing is an impossibility. Irrigation, ice factories and electric light plant have since completely altered the situation.

Northwards from Dera Ismail Khan the new road goes to Bannu, via Yarik, Pezu and the Pezu Pass, Shah Baz Khel, Serai Gambila and Serai Naurang. The Kalabagh-Lakki-Bannu railway runs parallel to the road from the Gambila bridge into Bannu. The road is good and with the exception of the passage through the Pezu Pass it is without

any gradient. Two lines of mechanical transport could be worked successfully throughout its length, though the edges merge either into sand or the walls of an embankment. The passage of small spates and irrigation canals across the road at intervals is provided for ; great care in passing lorries at these points would have to be taken as on one side there is always a drop ; this latter varies in depth from a few inches to as much as two feet. In several places drift sand might be liable to interfere with traffic. The surface is water-bound, no tar or asphalt being used ; stone for remaking the surface abounds and merely needs breaking, though in the case of the stretch of the road under consideration there are several miles which are devoid of the requisite quality and quantity of stone, necessitating the formation of dumps by road or rail transport.

From Bannu the road proceeds up the Tochi valley by way of Mirzail, Saidgi and Idak to Miranshah, whence it is possible to march to Datta Khel, though not with mechanical transport. The part of the road extending west of Isha is in reality a branch of the Circular Road leading to the headquarters of the Tochi Scouts and the aerodrome at Miranshah.

From Isha the road passes over the Tochi River and then, via Thal, over the Chinikai Narai, after which the Jala is crossed. There is then another rise over the Dizh Narai, whence the road drops to the Khaisora valley which it follows to Tambre Oba camp, between which place and Raghza the Khaisora and several affluents are crossed by causeways. The road then goes to Razani past the junction of the Shini Algad and the Kupire Algad. Thence the ascent of the Razmak Narai and Alexandra Ridge is made via Greenwood's corner, a hairpin bend built out on a bastion. In passing it may be mentioned that one of the most striking features of the road is the skill with which it has been sited, graded and constructed. The gradient hardly varies and every corner has been banked with such care that it is not, as is elsewhere often the case, destroyed by repair.

From Razmak camp, which is the largest enclosed camp in the world, the road proceeds via the Tauda China, past Makin, to Piazha. From there the road passes along the Takki Zam to Jandola, which is the headquarters of the South Waziristan Scouts. Here a branch road proceeds, via Splitoi, to Sarwekai, whence it is possible with adequate protection to proceed to Wana. The main road from Jandola passes along the Takki Zam to Khirgi and then across a wide valley to Manzai, whence it follows the Khirgi branch of the Tank-Kot-Murtaza railway to Kaur Bridge.

The gradients have now all been negotiated and from Kaur Bridge to Tank and from Tank to Dera Ismail Khan the fluctuations of gradient are negligible. The Decauville railway, lately taken over by the North Western Railway, from Tank to Dera Ismail Khan follows the road the

whole way ; several water stations are provided *en route* which are also available for mechanical transport.

There are three more roads which are being adapted for use by mechanical transport. These are :—

- (i) From Tank to Murtaza ; beyond the latter point the road is unmetalled ;
- (ii) From Tank to Draband (under construction) ; this crosses a long girder bridge at Sarkumar ;
- (iii) From Draband to Dera Ismail Khan (in poor state of repair) ; when the Gumal is in flood, the road is impassable.

There has thus been built, in the space of a few years, a road, fit for normal mechanical road transport over three hundred miles, which has required the construction of many bridges and causeways for the crossing of rivers and "*tangis*," all liable to most violent spates.

Only a few features of this road have been named. But it is not only interesting but important to show the possible lines of extension of the road, with the reasons which support the various schemes which have been devised :—

(a) The road from Jandola to Wana, which latter place was evacuated in 1919, is unfit for mechanical transport. Ultimately Wana will be again brought under control and it seems that roads may be made from Jandola to Wana, via Kindiwam, and from the north from Marobi, via Kaniguram. There may be certain difficulties in the way of their construction and their security, but imperious necessity will compel these to be overcome.

(b) The road leading from Thal to Idak is of great importance and will, in course of time, be fitted for the heaviest traffic ; this road will provide a further line of lateral communication in which the frontier has been for so many years conspicuously weak.

(c) The road leading from Peshawar to Kohat passes through independent territory and in this lies a weakness ; the situation of the road renders it fit for mechanical road traffic.

(d) Northwards, the Tirah is not well supplied with roads and the difficulties of lateral communication will one day need to be overcome.

Reference must also be made to future rail communication in and about the area. The railway from Kohat to Thal requires conversion to broad gauge while a bridge at Kalabagh urgently needs building in order to convey the broad gauge lines to Bannu and Tank ; this may also require some re-alignment of the line. That all these improvements will be effected in even a few years is an idea not to be entertained ; they are only named as indications of the military requirements following on the consolidation of our position on this frontier, which has already been changed by the completion of this great Waziristan Road.

## WARFARE IN MOROCCO: 1925-26

*Through the courtesy of the French Military Attaché in London, the following article has been specially written for the R.U.S.I. JOURNAL by an officer of the French General Staff in Paris.*

### THE THEATRE OF OPERATIONS.

THE area in which active operations took place between the French and the Rifis during 1925-26 lies in Northern Morocco. Its longer axis extends from the mouth of the River Moulouya on the Mediterranean coast to the mouth of the River Lakkos on the Atlantic coast, a distance of over 225 miles.<sup>1</sup> The actual scene of the fighting which covered the ground from the north of Ouezzan to the south of Melilla measures some 175 miles, while the width of this zone, lying roughly between the Mediterranean coast to the north and the valleys of the Ouergha, Innaouen and the Msoun on the south, is on an average about fifty miles.

Although this country is, on the whole, very difficult during the dry season, i.e., between the middle of June and the beginning of October, it is nevertheless everywhere more or less practicable for troops. After the first of the rains, however, it becomes impossible for any movement to take place off the very few metalled roads. At this period the whole country is transformed into one huge quagmire which could literally engulf any unit rash enough to leave the road. These conditions prevail for about five months in the year.

Water is very plentiful in winter, but in summer, that is to say precisely at a time when operations are in progress, it is very scarce and even totally deficient in certain districts. Strong winds prevail between June and October and spread a germ-carrying dust all over the country.

Military operations on an important scale, are thus possible only between April and October. Outside that period, military activity is restricted to minor and local operations of small importance.

### THE RIFIS.

The forces which opposed the French arms in 1925 and 1926 included :

- (1) Rifi cadres ;
- (2) A small number of organized Rifi units, chiefly destined to maintain the tribes to their allegiance to Abd-el-Krim ;

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<sup>1</sup> The French transliteration of the Moorish names is preserved.

- (3) More or less organized groups of regularly paid Rifi warriors ;
- (4) Groups of unpaid tribal warriors grouped under Rifi cadres.

The term " Rifi " is employed to represent Abd-el-Krim's own men, among whom the Beni-Ouriaghel tribe, inhabiting the country south of the Bay of Alhucemas, holds a prominent place.

The Rifi front was divided into large sectors, each sector being entrusted to a great caid. Sometimes one of these sectors was subdivided into sub-sectors, but this was exceptional. General organization of any high command and of the front did not go beyond this point.

In spite of this lack of a general organization, Rifi methods of fighting were uniform all along the front. This was evidently due to the fact that all the tribes belonged to the same stock and possessed the same fighting qualities ; also to the fact that they had been trained in the handling of certain weapons, such as machine-guns, trench-mortars, grenade-throwers, etc., by the same European instructors.

There was no depth in the general distribution of the Rifi forces, and consequently there existed no possibility of strategic or tactical manoeuvre.

The Rifi warrior owes his unquestionable superiority to three qualities which he possesses to a very high degree :—

- (1) He is extremely mobile because he carries only his rifle and ammunition and very little food, and he is thoroughly familiar with the country in which he fights ;
- (2) He is a very good marksman ;
- (3) He is very cautious and acts only when he is sure of obtaining good results. He does not resist to the end in any position, if he realises that he cannot hold out there with every hope of success.

It follows that a real battle on a grand scale with the Rifis was, in fact, impossible. Each tribe had to be overcome in turn. The campaign thus consisted of a succession of small operations ; it was a combination as well as a succession of political and military manoeuvres. Political action and military action had to go together and could not be separated.

#### RIFI OFFENSIVE METHODS.

As has already been said, there did not exist a real organization of command among the Rifi forces. On the other hand, the war material at their disposal, if we put aside rifles and a few machine-guns, was rather scanty and not properly handled. The result was that the Rifi Chief, that is to say, Abd-el-Krim, could undertake no concerted or general action bearing on the whole of the front, or even on a large sector thereof. Consequently, Rifi military activity revealed itself under the form of attacks on isolated posts, of " infiltration " through the French lines and of ambushes.



The attack on a post generally assumed the following guise: the forces entrusted with the attack started by encircling the post at long range. Then, if they had a gun or two with them, they used to throw a certain quantity of shells into the post by daylight. When night arrived, the bombardment stopped and the Rifi riflemen crawled up to the barbed wire entanglement surrounding the post and launched hand grenades into the post. At the same time they would try by speech to induce the native soldiers inside the post to desert their French officers. That action was repeated day after day and night after night until the garrison showed signs of exhaustion. Then came the final assault, generally by night.

Another form of attack, more dangerous in its consequences, was the method known as "infiltration." *Harkas* of a few hundred men would take advantage of the sometimes wide interval between two French posts to insinuate themselves by night well inside the French front. They would then surprise and attack troops at rest, small detachments, convoys, as well as tribes which had not obeyed the Rifi order to rise against the French, burning their villages and crops and taking away hostages. They would again cross the French line by night to rejoin their own people.

If there be added to the above two methods of attack, ambushades of reconnoitring detachments and patrols, also individual sniping of our posts and camps, a complete picture of Rifi offensive methods of warfare will be obtained.

#### RIFI DEFENSIVE METHODS.

Let us now turn to the defensive methods of Abd-el-Krim's contingents. On the defensive, the Rifi proved tenacious to the extreme, yet rarely waited for hand to hand fighting. When on the defensive, he invariably tried to turn the flank of the French attack and surprise the reserves, the artillery and the convoys. The moment he generally selected to pass from the defensive to the offensive was either when the French advance or attack stopped, after having reached its objective and started organizing the conquered position or establishing camp, or when the French attack, after having pushed beyond its objectives, had to fall back to those objectives. The Rifi then used to launch themselves with an utter contempt for death on the attacking troops which did not always succeed in stopping them in time.

As has already been said, there was no organization in depth in the Rifi defensive system. It presented generally only one line of resistance, with no local or general reserves for tactical counter-attacks or strategic counter-offensives. There was no organization, either for mutual support of the different parts of the line of resistance or for flanking fire. The whole thing was looked at from the individual, not the collective, point of view. The Rifi warriors supported one another individually and they limited that support to their immediate neighbours.

On the single line of resistance mentioned above, the less important parts were held by isolated men, good marksmen amply provided with ammunition and carefully concealed. The more important parts of the line were occupied by groups of men with, when possible, a machine-gun or automatic rifle or trench-mortar. It was only exceptionally that those more important points were held by one of the few organized Rifi units, although there might generally be found a few Rifi warriors to stiffen local tribesmen; the latter would sometimes be supplied with Rifi cadres.

The Rifi dreaded the effects of gun-fire and aeroplane bombs, and they succeeded in building bomb-proof shelters, trenches and dug-outs. They also dreaded tanks, but soon found a ready way to protect themselves against their action by establishing their line at the top of very steep and rocky slopes that the tanks could not climb.

#### FRENCH OFFENSIVE METHODS.

We have just considered the Rifi methods of warfare. Let us now turn to the French side and see what were the French methods. We shall first deal with the offensive.

When a French attack on a Rifi position fulfilled the following three conditions: methodical preparation, resolute execution and complete protection in all directions, it invariably succeeded.

The attack was carried out on as wide a front as possible, with the object of enveloping the wings of the opponent and threatening his line or lines of retreat. Organization in depth in the general system of attack was not necessary for the reason already indicated, namely, because the Rifi maintained only one line of resistance with no local or general reserves. Nevertheless, it was found necessary to keep in rear of the attacking troops a certain number of echeloned supports to protect the artillery and convoys, as well as to face any unexpected emergency either in the rear of the attack or along the attacking line.

As regards the most important question of the protection of the flanks of the advancing troops, either during the approach march or during the attack, it was found more effective to place *stationary* flank guards at suitable places on either flank of the troops rather than *mobile* flank-guards moving parallel with the main body. The protection afforded by *stationary* flank guards, flanking one another by fire and strongly entrenched, was more complete than that obtained with *mobile* flank guards. They not only prevented any hostile party or fire from reaching the main body, but ensured free communications between that body and the base camp before, during and after the battle.<sup>1</sup>

The French attacks took place either by day or by night. The advantage of day attacks was to enable the fullest use to be made of

<sup>1</sup> Compare our employment of permanent piquets in Waziristan in 1920.—ED.

all weapons, but there was a distinct drawback in the fact that they could not benefit by that most important factor which is surprise. In those conditions, a day attack had to be methodically carried out following the rules prescribed by French regulations when dealing with attacks on defensively organized positions. In other words, an attack by daylight on a Rifi entrenched position resembled, with all due proportions, attacks made in France during the Great War; in fact it assumed what the French called "a European aspect."

When, however, the Rifi position looked particularly strong, its capture particularly difficult and impossible to carry out without heavy casualties, the attack took place by night. In that case, the essential preliminary condition was the complete absence of noise on the part of the attacking troops. During the night, the Rifi were in the habit of leaving on the position only a few men well supplied with ammunition and whose main duty was to give the alarm in case of danger. The Rifi regulars generally spent the night in sheltered places well behind the line of resistance, while the local tribesmen would go back to their "kasbas" and "mechtas." If, therefore, the French attack could approach the Rifi position without being detected, a condition which naturally implied a total absence of noise, and launched itself forward determinedly with fixed bayonets, success was certain of attainment—and with relatively small loss.

The night attack was launched usually half an hour before daybreak in order to enable the attacking troops to entrench themselves on the conquered position by daylight. The Rifi invariably tried to reconquer their lost position by counter-attack. Owing to their having dispersed for the night, their counter-attack could only be launched three or four hours later, that is, by broad daylight. These three or four hours were sufficient for the French troops to organize the position and beat off the counter-attack.

Let us now see what were the methods employed in the offensive by the different arms.

*Infantry* always adopted, when under fire, very open formations with intervals as large as possible between units and, in the units, between the men. Only the effectives thought necessary to carry out the attack successfully were put in line and not more. All the unit commanders, from top to bottom, were imbued with the idea that once launched on an attack, their only two ideas were to be:

- (1) To envelop the enemy's flanks;
- (2) To cover their own flanks.

As soon as an infantry unit stopped, whatever the cause might be, it had to entrench itself and to avoid, as far as possible, any backward movement. The formula which had become a kind of motto for the infantry was that on all occasions it must show a "bold cautiousness."

*Artillery* could only employ direct fire. Firing from the map or from information on unseen targets was utterly impossible. It would only have meant a complete waste of ammunition. The result was that the guns had always to be in the first line and to act by sudden, short and violent salvos; this was essential owing to the extreme mobility of the targets when, by chance, they were seen. Fire by single rounds was totally inefficient and was practically never used. Night firing on villages and tracks was frequently employed as it often proved fruitful and might create enormous moral impression.

*Cavalry* was employed in two ways; before the fighting, it carried out reconnoitring work and, during the fighting, constituted the first element of the enveloping movements on the enemy's wings. Except on one or two occasions, the largest cavalry unit acting together was normally the squadron, and it was, therefore, possible to have cavalry units practically all along the front, ready to avail themselves of any favourable opportunity either on horseback or on foot.

*Aircraft* had a very difficult task to perform, owing to the total absence of remunerative targets. Observation was extremely difficult in such a mountainous and scrubby region and with adversaries so familiar with the ground and able to exploit this knowledge to the fullest extent. It can confidently be said that aeroplane bombing had more moral than material effects, but those moral effects were sometimes very considerable. Artillery ranging from the air was very difficult, and sometimes impossible, for the same reasons as for observation. On those occasions when it could be carried out, it gave good results only when wireless was used. The method of weighted messages dropped by the aeroplane failed entirely.

*Tanks*<sup>1</sup> were used on many occasions and their action was often decisive. Their moral effect on the Rifis was considerable. But they found themselves powerless in front of certain positions organized by the Rifis at the top of very steep and very rocky inclines. They were used occasionally as reconnoitring organs; also as organs of "intimidation" among newly submitted tribes which showed signs of weakening and of wavering. The use of tanks during the night was entirely proscribed.

There is still another, if not "arm," at least "element" which is well worth mentioning: this is what the French call "partisans." The "partisans" are recently submitted tribesmen enlisted locally for a short time and for a special operation. They were given a rifle, a certain number of rounds and a few francs a day. They were used under the leadership of French political officers, to constitute a safety screen all round the regular units. They rendered great services. When well commanded, they gave very good results as they knew the enemy better than did the French, and they would fight him on his own ground with

<sup>1</sup> See R.U.S.I. JOURNAL for May, 1926, pp. 293-9.

his own methods. But they could not bring an action to its normal end ; neither could they hold a position, as they, like the Rifi, always wanted to return to their homes for the night. They were, therefore, always supported by regular troops and, in that case, they proved quite good, although naturally their value varied considerably, according to the qualities of the tribes from which they came.

#### FRENCH DEFENSIVE METHODS.

We must now turn to the defensive methods employed by the French. The basic principle which the French adopted for that form of warfare was that the troops, although on the defensive, should always be ready to undertake the offensive, to affirm, on all occasions, their moral superiority and to show themselves as much as possible.

On the other hand, they acted on the assumption that any defensive system must be sufficiently protected and sufficiently manned. By "sufficiently protected" is meant that all resources offered by modern fortification were to be employed (wide and thick wire entanglements, dead ground to be enfiladed or swept, use of concrete). By "sufficiently manned" is meant that the garrison of a post must be strong enough to carry out observation duties and guards ; to serve the guns, trench mortars, machine guns ; also to maintain a small reserve.

Every man beyond these requirements was reckoned unnecessary and sent away, since, instead of increasing the power of resistance of the post, he diminished it.

In the most dangerous parts of the front, the French established what they call "a system of continuous flanking," in order to put a complete stop to the Rifi method of "infiltration" by a continuous line of posts effectively flanking one another and rendering it impossible for the adversary to cross the line with important groups of men or to encircle any one of the posts. The main objection to that system is that it required too great a number of posts and effectives. On the other hand, it was clear that a single platoon in a post forming part of such a system with a good organization of flanking fire, could easily hold out when attacked by superior forces. It was assumed that in such a system a battalion could hold a front of about eight kilometres<sup>1</sup> with :—

1½ Companies divided between several posts of the front line ;

½ Company with the battalion commander in posts behind the front line ;

1 Company in reserve.

The battalion machine-gun company was divided between the different posts. With such a system, a regiment of three battalions

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<sup>1</sup> 8 kilometres = 5 miles.



could hold sixteen kilometres<sup>1</sup> of front with :—two battalions in first line keeping one battalion in reserve.

In less sensitive parts of the front another system was employed. Only the most important points were held by posts which would sometimes be separated from one another by wide intervals. Behind that line of widely separated posts, mobile groups of all arms were held in readiness at certain convenient places. Their mission consisted in :—

- (1) Keeping the country in order around them ;
- (2) Rescuing a post when attacked ;
- (3) Revictualling the posts.

Security in these parts of the front thus rested more on the mobility of the groups of all arms than on the strength of the first line. When the whole of the Riff is pacified, a system similar to this latter will be employed all along the northern frontier of French Morocco, as it requires relatively few troops and is, therefore, very economical.

Before finishing this rapid survey of methods of warfare employed in the Riff, it would be as well to say a word concerning a factor which plays a prominent, not to say vital, part in the conduct of operations. This is "communications." The movements of troops, especially of artillery and tanks, and their revictualling, depend entirely upon the state of communications. In summer, as has already been said, the Moroccan soil can support any sort of vehicle, but in winter it is entirely different and everything depends on the number, direction and condition of the roads. The road system is then as important as is the arterial system of the human body. If it does not work, it means immediate and deadly paralysis. That is why the French in their Moroccan campaigns of 1925 and 1926 attached so much importance to the development of their communications and obliged all units, French or native, not engaged in the front line, to work as pioneers on the lines of communication on the repair of existing or building new roads.

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<sup>1</sup> 16 kilometres = 10 miles.

## THE DOCTRINE OF CONTINUOUS VOYAGE AMERICA'S WAR CLAIMS

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By the RIGHT HON. SIR FREDERICK POLLOCK, Bart., P.C., LL.D.,  
D.C.L., K.C., Judge of Admiralty Court of Cinque Ports.

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Editor of that paper).*

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WHEN we first heard of the pretensions put forward in Senator Borah's resolution, it seemed incredible that they would be supported by the considered opinion of the United States Government, much less that of sensible American citizens. Later information justifies this incredulity, and we may at least hope that there will be no precipitate action.

Meanwhile it may be useful to explain the nature of the case in a broad and general way. The claim is for damages for seizures on the high seas of contraband cargo destined for German military use during the time when the United States was a neutral in the world war. Such captures were made by the French as well as the British Navy, and the State Department might have to consider whether the French Government is likely to show as much patience as our own.

I proceed to show that much patience is indeed required for meeting this claim (if it were really made) within the ordinary limits of diplomatic courtesy. Senator Borah and his companions are setting up a grievance founded on a course of war policy first put in force by the United States in the Civil War. That policy, after and notwithstanding European objections to a novel restraint on the freedom of neutrals, was accepted and acted upon by European Powers; later it was developed by the action of the Allies from 1914 to 1917, and finally, when the United States came into the war, the United States itself was not only willing to maintain, but even eager to execute, the repeated judgments of its own Supreme Court.

### PRECEDENT OF THE AMERICAN CIVIL WAR.

The policy and doctrine in question are commonly referred to under the head of Continuous Voyage. They date from the American Civil War.

Ever since the beginnings of modern international law, belligerent naval Powers have asserted and put in force the right to stop on the high seas, and retain as prize, cargoes of contraband goods, that is to say, warlike munitions and stores and such other things as the enemy requires for war purposes. Some things, being of no peaceful use, are always and obviously contraband. Others may be contraband or not, according to circumstances. The distinction between absolute and conditional contraband is technical and often disputable; it cannot be discussed in a short space. A trafficker in such goods, if only a direct enemy destination were regarded, could secure himself by ostensibly shipping his cargo to a neutral port and thence forwarding it to the ultimate enemy destination.

The doctrine attacked, it would seem, by Senator Borah aims at checking such devices by treating the whole transit to enemy hands as a "continuous voyage," and further it does not matter whether the latter part of the transit is by water or by land. During the American Civil War, which ended in 1865, blockade-runners hoped to enjoy immunity as far as the Bahamas and other intermediate ports, whence it was a perilous but brief and not impossible adventure to reach the Confederate seaboard.

In order to frustrate such enterprise the former rudimentary precedents were expanded by a series of decisions of the Supreme Court to the point of creating a new rule. The British Government acquiesced but without approval, and for some time the innovation was opposed by European opinion. But in 1896 the Institute of International Law, a small unofficial but very select learned body, commanding respect quite out of proportion to its numbers, accepted the American view, and Great Britain acted on it in the South African War. Moreover, the unratified Declaration of London (1909) fully conceded the doctrine as to absolute contraband.

#### CONTRABAND TRAFFIC THROUGH NEUTRAL PORTS.

The rule was very lately thus stated by a learned American, Professor Garner, of Illinois, in his Tagore Lectures<sup>1</sup> (1922): "Contraband goods discharged in a neutral port when proof existed that they were to be forwarded to an enemy port for belligerent uses were as liable to capture as if they were forwarded direct by a single voyage to the enemy port." In 1898 the United States was at war with Spain for a short time, but had not occasion to apply the rule to an appreciable extent, if at all, for obvious geographical and strategical reasons.

From the outbreak of war in 1914 onwards the stoppage of contraband traffic with Germany was a manifest, and, indeed, proved a vital

<sup>1</sup> Recent Developments in International Law, published by The University of Calcutta, 1925.

interest of the Western Allies. The United States, on the other hand, was now the chief neutral Power, therefore interested in minimising the rule it had created, and the State Department did so in much controversial correspondence, but without attempting to repudiate the rule as a whole, though the egregious Mr. Bryan did say in a State paper that "the record of the United States in the past is not free from criticism."

Many questions of detail were, of course, fairly arguable. Not a few came before the Prize Courts for regular adjudication. The justice of our Admiralty jurisdiction in prize matters has never been seriously impugned, though no human court can claim to be infallible, and I believe as much can be said of the French. (German Prize Courts went much farther in condemning cargoes on mere vague presumption; ours emphatically refused to follow their example.)

Let us see how the late Sir Samuel Evans laid down the rule in the leading case of "The Kim" (1915). "The doctrine of continuous voyage or transportation, both in relation to carriage by sea and to carriage by overland, had become part of the law of nations at the commencement of the present war, in accordance with the principles of recognised legal decisions and with the view of the great body of modern jurists, and also with the practice of nations in recent maritime warfare."

In every case the hostile destination of the goods, and their contraband or innocent character (which may be affected by the particular destination) have to be established by evidence. If owners of captured goods have evidence tending to clear them and fail to produce it in due time, it is their own fault. Where exceptional circumstances can be urged in excuse, I believe account is taken of them as a matter of grace though not of right.

It must be noted that the doctrine of continuous voyage has no necessary connection with blockade. Trading with the enemy in contraband may or may not include a blockade-running adventure. Running a blockade will in practice almost certainly include handling contraband goods, but it does not matter whether a blockade-breaker's cargo is contraband or not. Confusion on this point is easy, and I have already seen signs of it in the last few days.

In the latter part of the war, however, the stringent blockade of German commerce by the Allies (including the United States) not only reduced the difference between absolute and conditional contraband to a vanishing point, but almost swallowed up the doctrine of continuous voyage.

#### THE UNITED STATES ENTRY INTO THE WAR.

In 1917 the monstrous arrogance of the German War Lords and the gross bad faith of the German Ambassador in plotting a Mexican attack on the United States finally drove President Wilson to quit his part of the superior neutral who would mediate the peace, and the United

States joined the Allies with a will. The schoolmaster turned fighting man, and American sailors, being too good seamen to be sea-lawyers, were glad enough to be relieved of hearing lectures about being too proud to fight. Anyhow, they asked no questions concerning the law of contraband, continuous voyage, or blockade, and it is believed that now and then they were ready to better their instruction.

So the Americans, in concert with the Allies, forgetting all the paper and ink expended on serious or captious objections, good or bad claims of American citizens, during their neutral period, proceeded to do everything the Allies had done, not without zeal to make up for lost time. Of outstanding American claims against the Allies there could be no talk in public. It was understood, as among honourable comrades, that any such claims, in so far as they might be valid, were merged in the sacrifices we all made for the common cause. Here such agreements need no bond.

#### BASIS OF AMERICAN CLAIMS.

It remains to be seen (if the matter proceeds) whether the claims of Senator Borah's clients, three thousand or more, it is said, are founded on total repudiation of the continuous voyage doctrine, or only on allegations of particular captures being without justification on special grounds: conditional contraband condemned as absolute, insufficient proof of destination and the like. The doctrine itself being American and reaffirmed by the United States as a belligerent in this very war, argument against it in the mouth of an American complainant seems not only absurd but impudent. Yet the huge amount publicly mentioned looks as if no less ambitious pretension would account for it.

If only particular complaints consistent with the general principles on which the Allies (and also the United States) acted are in question, why were they not put forward sooner or disposed of in prize jurisdiction in the regular course? It is quite possible, however, that the figures mentioned were arrived at by guesswork and based on fantastic exaggeration of hypothetical losses of profit. In that case we have no clue to the supposed cause of action.

It will be remembered that the damages awarded in the "Alabama" case left a considerable balance for which no claimants could be found. Finally, there is in the law of nations no Statute of Limitation or other defined rule of prescription, but one cannot help observing that claims ten years old, in matters where verification and proof become harder month by month, do look exceedingly stale.

Any learned friend, British or American, who desires to satisfy himself as to my authorities will find pretty much the whole story in the case of "The Kim," already referred to, in Trehern's Prize Cases, vol. 1, page 405, where the argument is more fully reported than elsewhere.



## THE INTERNATIONAL SITUATION

*Officers serving, or in touch with friends, abroad are specially invited to contribute to this section of the JOURNAL, which has been started with a view to keeping Members informed of foreign events and other matters affecting the international situation.*

*Articles should be as short as possible, and authors are particularly requested to say whether they wish to remain anonymous. Publication may have to be refused in cases where the authorities consider that it is not in the public interest.—ED.*

### THE TREATY OF LOCARNO

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*(As the Treaty of Locarno lays certain obligations on Great Britain which might call for the support of the fighting Services, and, as it also introduced the question of national disarmament, which is now being examined by a special Commission at Geneva, the following authoritative précis of the terms of the Treaty may be useful for reference purposes.—ED.)*

1. The Treaty of Mutual Guarantee, more generally spoken of as the Treaty of Locarno, was duly signed on 1st December, at the Foreign Office in London. Before it was signed, agreement was reached between the German Government and the Allied Powers regarding the most controversial points arising out of the demands of the Allied Note of 4th June—i.e., the General Staff, training of reserve officers, police, training with unauthorized weapons, the higher command and the associations. As far as the remainder of the Allied demands are concerned, although a number still remain to be executed, the majority will probably be liquidated in the near future, and the importance of others will tend to diminish as the result of the Treaty of Locarno. The Treaty of Locarno should, in future, have a far reaching effect on the general question of armaments in Europe.

2. The Treaty consists of the Final Protocol, wherein the contracting parties—Germany, Belgium, Great Britain, France, Italy, Poland and Czechoslovakia—agree to carry out the provisions enumerated in Annexes A to F of the Final Protocol, and undertake to co-operate severally in the work relating to disarmament undertaken by the League of Nations.

The annexes to the Final Protocol are the following :—

Annex A.—Treaty of Mutual Guarantee between Germany, Belgium, France, Great Britain and Italy. Initialled 16th October, 1925.

Annex B.—Arbitration Convention between Germany and Belgium.

Annex C.—Arbitration Convention between Germany and France.

Annex D.—Arbitration Treaty between Germany and Poland.

Annex E.—Arbitration Treaty between Germany and Czechoslovakia.

Annex F.—Collective Note to Germany regarding Article 16 of the Covenant of the League of Nations.

3. Appended to the Protocol are two treaties—one between France and Poland and the other between France and Czechoslovakia—wherein France and Poland, in the one case, and France and Czechoslovakia in the other, undertake to come to each other's assistance should either party be the subject of unprovoked attack, owing to a failure in the observance of the Locarno Treaty.

4. *Annex A.*—The Treaty of Mutual Guarantee consists of ten articles, embodying the following :—

(a) Article 1.—Is a guarantee by all the contracting parties to maintain the territorial *status quo* resulting from the revised frontiers between Germany and Belgium and between Germany and France, the inviolability of these frontiers and also the observance of stipulations concerning the demilitarized zone of the Rhineland. This stabilizes the situation created by the Treaty of Versailles and is the essence of the present Treaty. The remainder of the Treaty provides the means to ensure this end.

(b) Article 2.—Herein Germany, France and Belgium undertake to refrain from making war on each other. There are, however, certain cases when war is legitimate under this article—to wit, in the case of self-defence. If Germany attacks France or Belgium these countries are entitled to make war in self-defence; and, again, if Germany violates the demilitarized zone, France and Belgium are entitled by the Treaty of Versailles to resort to arms in self-defence. Equally, if France or Belgium is the aggressor, Germany is at liberty to defend herself by resorting to war.

(c) Article 3.—In this article Germany, France and Belgium undertake to do their utmost to settle differences by peaceful methods.

(d) Article 4.—This article particularly affects Great Britain. Herein, Great Britain, as one of the contracting parties, undertakes to come to the support of Germany if she is attacked by France or Belgium, or *vice versa*. The allegation that such an attack has been made has to be reported to the

Council of the League of Nations, and if the Council hold that such an attack has been made, Great Britain must fulfil her guarantee. Germany, Belgium, France and Italy are all parties to this guarantee, and so it follows that the aggressor would immediately find herself opposed by all the other parties to the guarantee.

In addition, this article provides for the case where immediate action is required. The Council of the League is a body which requires time to arrive at a decision. Therefore, in the case where immediate steps are necessary, the guarantee is to operate at once, providing the guarantor Power is satisfied that an attack in breach of the Treaty has been made. The case is not thereby taken out of the hands of the Council of the League, which will proceed with its finding, and the States which have already taken action as parties to the guarantee will be bound to comply with the final decision of the Council.

- (e) Article 5.—Contains a guarantee of the arbitration conventions between Germany, France and Belgium.
- (f) Article 6.—States definitely that the Treaty of Locarno in no way affects the rights and obligations of the high contracting parties under the Treaty of Versailles, or under arrangements supplementary thereto, including the agreement signed in London on 30th August, 1924.
- (g) Article 7.—Makes it quite clear that the Treaty of Locarno in no way interferes with, or limits the powers or authority of, the League of Nations.
- (h) Article 8.—This article deals with the duration of the present Treaty. No time limit is fixed. When it is considered that the authority of the League is sufficient to ensure the protection of the parties to the Treaty, then the necessity for the Treaty disappears and it can be ended by a vote of a two-thirds majority of the Council on the request of one or other of the high contracting parties.
- (i) Article 9.—States that the present Treaty imposes no obligation on the British Dominions or on India, unless the Government of such Dominion or India signifies its acceptance thereof.
- (j) Article 10.—This article contains the important proviso that the Treaty will not come into force until Germany becomes a member of the League.

The Treaty is to be deposited in the archives of the League of Nations.

5. *Annexes B and C.*—The Arbitration Conventions between Germany on the one side and Belgium and France on the other, provide

the methods by which effect can be given to Article 3 of the Locarno Treaty.

6. *Annexes D and E.*—In the Arbitration Treaties between Germany on the one hand and Poland and Czechoslovakia on the other, the parties concerned undertake to seek a peaceful solution to disputes which may arise between them.

7. *Annex F* is a collective note to Germany regarding Article 16 of the Covenant of the League of Nations.

Germany, fearful of the somewhat comprehensive terms of Article 16 of the Covenant of which the following is an extract :—

“ It shall be the duty of the Council in such case to recommend to the several Governments concerned what effective military, naval or air force Members of the League shall severally contribute to the armed forces to be used to protect the Covenants of the League.”

“ The Members of the League agree . . . . that they will take the necessary steps to afford passage through their territory to the forces of any of the Members of the League which are co-operating to protect the Covenants of the League.”

had requested certain explanations regarding her commitments under this article. Assurance was given in the following terms which are quoted from Annex F :— . . . . “ the obligations resulting from the said article on the Members of the League must be understood to mean that each State Member of the League is bound to co-operate loyally and effectively in support of the covenant and in resistance to any act of aggression to an extent which is compatible with its military situation and takes its geographical position into account.”

8. *Effects of the Treaty.*—Providing the different parties to the Treaty carry out the provisions thereof loyally, the immediate effect should be far reaching and should stabilize the international situation in Europe.

The Rhine, the eastern strategical frontier of England, France and Belgium, is safeguarded ; this assures, to a great extent, the security of the Western Powers and of France especially.

Germany's immediate gains are commercial. The state of tension which has existed between Germany and her western neighbours is eased and should result in an increase of trade facilities. It is only by means of the full development of her industries that Germany can improve her economic position and struggle out of her financial difficulties.

Again, France's promise of assistance to Poland and Czechoslovakia in case of German aggression has hitherto been an ever-present menace to European peace. The Treaties now signed between Germany and

Poland and Germany and Czechoslovakia have greatly reduced the likelihood of any such action being necessary.

On the other hand, certain critics of the Locarno settlement incline to the view that as these treaties between Germany and her eastern neighbours are guaranteed by France, Great Britain may be indirectly involved in commitments regarding Germany's eastern frontier, which it has hitherto been her policy carefully to avoid. In contradiction of this, it is only necessary to say that it is the considered opinion of the legal experts of the Foreign Office that the terms of the Locarno Treaty do not increase Great Britain's liabilities to defend Poland and Czechoslovakia against Germany, beyond her liability under the Covenant of the League. The only case it is possible to put forward to justify the contention that British liabilities have been increased is the following :— If France, in virtue of her guarantee, made a *legitimate* attack on Germany and that attack failed, Great Britain might find herself bound to come to the help of France, if Germany, in a successful counter-attack, crossed the Rhineland. So the most that can be said about this single case is that it increases our liabilities in respect of the Rhineland, but the whole basis of our policy is that the Rhineland is an area of such vital concern to us that we are prepared to use force to resist any unlawful incursion into that area.

9. *Disarmament*.—The question of general disarmament received distinct encouragement from the signing of the Locarno Treaty. The Council of the League decided to summon a preparatory commission for a disarmament conference and invited the following States not at present represented on the permanent organ of the Council for the work of disarmament, to send representatives to the preparatory commission :— Bulgaria, Netherlands, Finland, Poland, Rumania, Kingdom of the Serbs, Croats and Slovenes.

In addition, invitations were sent to Germany, the United States of America and the Soviet Republics who are not members of the League to send their representatives to the preparatory commission. It is interesting to note that the United States of America accepted this invitation with certain reservations, in spite of the attitude of aloofness hitherto maintained as regards the League of Nations. Russia, on the other hand, has refused to take part in any conference held in Switzerland.

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### THE LIMITATION OF ARMAMENTS

The preparations and discussions designed to lead up to a full-dress conference at Geneva on the subject of international disarmament, or, as is more probable, limitation of armaments, are proceeding, but, already, considerable differences of opinion are becoming apparent.



A Preparatory Commission, with M. Loudon, the Dutch Ambassador to France, in the chair, has been appointed to "prepare a programme for a conference on disarmament." At the outset of the task entrusted to this body representatives of the principal Powers expressed the attitude of their respective Governments towards the subject. These may be summarised as follows :—

**BRITISH EMPIRE (Viscount Cecil).—**The British Government is most anxious to reduce expenditure, including that incurred in the upkeep of the fighting Services. Armaments in many cases, though not all, are kept up through fear of danger to national security from the armaments of other Powers. For this there is no remedy save some general scheme of disarmament such as the League of Nations is trying to bring about.

The size of the British Army is not dependent on that of foreign armies. It is governed by our overseas commitments, not only within the Empire but also in countries like Egypt, Mesopotamia and Palestine, where we have definite responsibilities.

The size of the Navy, on the other hand, is, to a certain extent, dependent on that of other navies. With regard to certain types of ships an agreement was arrived at some time ago in Washington. It is possible, however, that a further agreement might be come to in respect of submarines and cruisers, but the number of cruisers required for the British Navy is also largely a question of overseas commitments. This matter of numbers does not come within the scope of the question but the *size* of cruisers undoubtedly does do so. There is no reason why, by general agreement, the size of cruisers should not be further limited.

Air armaments are in a somewhat different category to that of armies and navies as their rôle is essentially an offensive one. For that reason the size of the air force maintained by Britain is very largely dependent on that maintained by other countries. Any agreement for the reduction of air armaments would be welcome.

A condition of security must be maintained but disarmament is the greatest guarantee for security : "if once the process (of disarmament) were started by which disarmament could be obtained in exchange for security, then security would be had for disarmament and the world could proceed with increasing rapidity with the reduction of armaments."

At a later stage Viscount Cecil remarked that it is impossible to limit the *war* strength of a country, i.e., to limit its whole resources in men and materials. The object is to increase the security of the people by limiting the actual striking force that each country has. This should include not only the troops with the colours but also the strength of the armaments which could be instantly mobilised to deliver that lightning and overpowering blow which is what most countries arm themselves to avoid.

UNITED STATES (Mr. Gibson).—The general policy of the U.S. Government is to favour disarmament. With regard to land armaments, the solution appeared to be "regional agreements" rather than some world-wide plan for reductions. The United States had already reduced their land armaments to a minimum.

The American Government would welcome any step which might tend to the further limitation of competitive naval construction.

FRANCE (M. Paul Boncour).—Limitation of armaments can only apply to peace-time armaments. In any case no country could accept such limitation unless the organization or body recommending it had taken into account the whole of the potential forces which might be arrayed against that country in time of war. This potential war strength includes natural mineral and agricultural resources, and the ability given by the railway and economic systems of a country to turn peace industries into war industries.

The country which is being pressed to limit its armaments is entitled to ask "What are you going to do to assist me in case I am attacked, in case all those existing and potential resources are arrayed against me. The limitation of armaments cannot be considered apart from the organization of economic and military assistance in time of war to the State which is the victim of the attack."

ITALY (General de Marinis).—The Italian representative agreed with M. Boncour and said "The position of two countries which possessed the same number of guns, rifles and howitzers at the moment when war was declared would rapidly be changed in proportion as one possessed great manufacturing resources and great wealth in raw materials . . . to replace those weapons destroyed during the first days of war. The question of the potential war strength of a country . . . must include the whole agricultural wealth and its geographical situation in relation to the great sources of food supply on which it must depend during hostilities." If the problem is stated in these terms, he said, it has been observed that it was tantamount to declaring it to be insoluble, but the task was one for the military and economic experts to study and then enlighten the Commission.

BELGIUM (M. de Brouckere).—The question should be confined to the effort which a country might make either at the outbreak of war or within a certain period after it. The discussion should centre round the limitation of peace-time armaments and facilities for mobilisation. If the examination is to include mobilisation of *personnel* it must also include that of material. "It would be futile," he said, "to advocate measures for the reduction of guns without taking into account—bombardments by aircraft, or to seek to limit the number of rifles and leave out of consideration the existence of gas warfare or fail to recognise that an aeroplane which is not a war machine may, nevertheless, become

one in the course of a few hours . . . In a word, mobilisation must cover industrial mobilisation."

GERMANY (Count von Bernstorff).—Exaggerated armaments lead to war. The disarmament of Germany, under the Treaty of Versailles was intended to be a prelude to a general scheme of disarmament.

The German people are, at the present day, completely disarmed.

So long as there are countries with excessive armaments and others whose armaments are not even sufficient for their own security, the working of the Covenant must inevitably be hampered by a great many difficulties.

#### NAVAL, MILITARY AND AIR SUB-COMMITTEE.

The Preparatory Commission of the International Disarmament Conference referred a number of preliminary and technical questions to a Naval, Military and Air Committee. The latter held its first session on 28th May. Having completed its initial task it adjourned, on 6th July, until 2nd August.

In reply to the question: "Is it practicable to limit the ultimate war strength of a country or must any measures of disarmament be applied to the peace strength?" the Committee presented a reasoned affirmation that it is possible to limit peace-time armaments and indicated what these limitations might include.

The standard proposed for comparison of naval armaments is total tonnage. A Minority Report urges that comparison should be by tonnage of the several types of warships. The dissentient nations were Argentine, Chile, Great Britain, Japan and the United States. The Majority was made up of the representatives of Belgium, Bulgaria, Czecho-Slovakia, Finland, France, Holland, Italy, Jugo-slavia, Poland, Rumania and Sweden.

The proposal of the Majority Report is not in keeping with the Washington Agreement to which France and Italy were partners.

With regard to military armaments, the standards suggested are:—

- (a) Number of peace-time effectives;
- (b) Organization of peace-time effectives;
- (c) Period of service and training;
- (d) War material in service.

The importance of trained reserves, stocks of war material and various other preparations necessary for war should also, it is remarked, receive attention.

With regard to air armaments it is proposed to compare the total numbers of *personnel*, including pilots, also material, the latter being divided into:—

- (i) *Dirigibles*—the criteria being cubic-capacity and horse-power ;
- (ii) *Aeroplanes*—where the comparison suggested is total horse-power and the number of machines with reference to total horse-power.

In arriving at the standard of strength in air armaments it is considered that material is of more importance than personnel.

The necessity of eliminating chemical warfare was specially emphasised.

Finally, the Sub-Committee expresses the opinion that, at present, expenditure on national defence does not provide a standard for comparison of armaments, and suggests an enquiry as to how national defence budgets can be placed on a comparative basis.

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### A GRECO-BULGARIAN FRONTIER INCIDENT

*(Reproduced by permission of the General Staff).*

On 19th October last,<sup>1</sup> firing occurred in the area of Demir Kapu, where the frontier between Greece and Bulgaria follows the crest of the Belashitza-Planina Range. In the end a Greek sentry was killed. The sentry posts of the two countries are only some fifty yards apart in this area, and although by the subsequent discovery of the body of the Greek sentry in Bulgarian territory, the Bulgarians endeavoured to prove that intrusion into their country had been the cause of the commencement of the firing, this evidence, in the light of subsequent enquiry by the military attachés of the Great Powers, was not substantiated.

After the death of the Greek sentry, firing appears to have become general, and a Greek officer advancing with a white flag to enquire into the reason for the Bulgarian action, was killed. The Greeks thereupon withdrew to a distance of 200 metres behind their frontier, and the Bulgars occupied the actual Greek post from which, they state, fire was first opened upon them. This move by the Bulgars was exaggerated into an invasion of Greek territory, and as this report was handed on from each Greek officer to his superior it was enlarged without any confirmation into an advance of Bulgarian forces of the strength of one battalion. Actually the Bulgarian forces in this area never exceeded 160 rifles.

The result of this exaggerated report, which was too readily accepted by the Greek General Staff, was that on its reaching headquarters of the 3rd Greek Corps at Salonika, an operation was decided upon which

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<sup>1</sup> Although this episode took place last autumn, the details are not very generally known. It is of interest as showing the part played by the Council of the League of Nations in acting as mediator.—ED.

involved a flank move by the Greek forces from the direction of Demir-Hissar up the Rupel Pass, with a view to forcing the Bulgarians to evacuate their position on the Belashitza-Planina heights by threatening their communications. This move was justified from the military standpoint by the assertion that frontal attack on the Bulgarian position, which had an excellent field of fire, would have been too expensive an operation.

The Greek troops involved in this flank movement which commenced on 21st October, consisted of the 6th and 11th Divisions, whose peace stations are at Serres and Salonika respectively, and who were supported by cavalry and field and horse artillery, presumably from Salonika. Simultaneously with the orders for the advance a peremptory note was addressed by the Greek Prime Minister, General Pangalos, to the Bulgarian Government demanding an indemnity of two million francs and exemplary punishment of the responsible Bulgarian officers.

The invasion of Bulgarian territory commenced on 22nd October, and was continued on the two successive days; on these days the Bulgarian town of Petrich was bombarded by Greek artillery. The actual depth of the invasion of Bulgarian territory appears to have been some ten kilometres and the invading troops were followed by a rabble of Greek civilians, who looted the deserted Bulgarian villages and did some considerable damage to crops.

Despite an offer of intervention by Rumania, Bulgaria decided to appeal to the League of Nations, and in consequence of her appeal the Council of the League called a meeting at Paris on 26th October, and instructed both parties to cease hostilities and to withdraw within their own frontiers, despatching on 27th October the military attachés of Great Britain, Italy and France to superintend the withdrawal and to examine the course of events at the scene of the incidents. Subsequently the Council of the League appointed a Commission, under Sir Horace Rumbold, consisting of two neutral civilian members and two military members. The terms of reference of this Commission were:—

- (1) To determine the origin and sequence of events which have caused the intervention of the Council;
- (2) To fix responsibility;
- (3) To furnish all data to render it possible to fix indemnities or reparations if necessary.

The Commission met at Geneva on 6th November, proceeded to Demir-Hissar on the 11th, and having visited Athens and Sofia, rendered its report to the Council of the League on 28th November.

In its report the Commission laid stress on the fact that the Bulgarian Government had acted in conformity with the Covenant of the League, whereas the Greek Government by occupying Bulgarian territory with its troops had violated the Covenant. Consequently, in the opinion



of the Commission, the Greek Government should be held responsible for the expenses, loss and suffering that the invasion by Greek troops had caused, and the Commission assessed the amount of damage at £45,000. The report of the Commission was subsequently examined by the Council of the League sitting at Geneva. Its reception by the Greek Press was very unfavourable, the action of the League in this case being, not unnaturally, contrasted with its action when Italy was the aggressor in the Corfu incident of 1922.

It is interesting to note that the opinions of the Military Attachés as to the causes of the original outbreak are—

- (1) The positions of the frontier posts, which are much too close to each other ;
- (2) The excessive lengths of duty of these posts, which often extend up to six months ;
- (3) Lack of supervision by superior officers ; and
- (4) On the Greek side the habit of despatching to those frontier posts men who have proved unsatisfactory while with their units in peace stations.

The Greek Government has laid stress on the action in this incident of a certain number of Bulgarian Militia and of numerous bands of comitadji. In the case of the former they state that their existence is contrary to the terms of the Treaty of Neuilly, and in the case of the latter that these bands are always exploited by the Bulgarian Government in frontier frays. The Bulgarians, on their part, deny the existence in the area of any bands of comitadji, and it appears that only one organized band was anywhere in the neighbourhood at the time. As to the Militia, the Bulgarian Government state that certain demobilized militia residing in the area not unnaturally took arms in defence of their homes ; this view appears to have been accepted by the Commission of the League.

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### NOTES ON THE SITUATION IN CHINA

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The situation in China remains obscure. The recent successes of Wu-Pei-Fu and Chang-Tso-Liu have not yet led to a definite understanding between these two rivals and temporary allies for the formation of a permanent Government at Peking. In view of these facts, the following notes are necessarily somewhat disjointed and retrospective.

(1) *The Kuo Min Tang Party.*

The Kuo Min Tang is a Nationalist party, having for its motto "China for the Chinese." The party is split into two wings—the one

moderate and the other an extremist wing which, under Soviet Russian influence, aims at the Sovietization of China generally. The moderate element is centred at Peking in the north, and the extremist at Canton in the south, while at Shanghai, in central China, the elements are equally divided. There is a growing rift between the two wings. The extremists are Communists and the moderates are non-Communists; the latter have demanded that Russian Bolsheviks should be expelled from the party and be prohibited from holding office in the Canton Government. The Kuo Min Tang has a considerable following, not only throughout China but also among the Chinese abroad. Whether it is less self-interested than any other Chinese political party is a very doubtful question; it receives help, wherever it finds it.

In south China, where a Government of Soviet model has been set up at Canton, the activities of the Kuo Min Tang have been directed against the British Empire—Hong Kong in particular. But in these activities can be traced the influence of Soviet Russian Imperialism rather than the natural expression of Chinese Nationalism; even so, the extremists are obsessed by their power over the British in Hong Kong.

(2) *The Kuo Min Tang Forces.*

(a) *Personnel.*—The outstanding feature of the "red" forces in south China is the leavening influence of the cadets trained by Russian instructors at the military academy at Whampoa (near Canton). The men of the Kwantung Province do not make good soldiers, and the provincial forces are mainly mercenaries from Yunnan with some from Hunan and Kwangshi Provinces. The men of Yunnan and Szechuan have the reputation of being the boldest and best fighters in China.

(b) *Organization.*—(i) *Kwantung Province.*—The forces in Kwantung are organized in five corps, totalling in February, 1926, about 80,000, but it is very doubtful whether each corps represents more than a strong mixed brigade.

(ii) *Hunan Province.*—In December, 1925, the estimated total strength of provincial troops was reported to be 68,000.

(iii) *Kiangsi Province.*—In December, 1925, the estimated total strength of provincial troops was reported to be 60,500.

(iv) *Kwangshi Province.*—Estimated strength in December, 1925, 49,000; organized in two armies.

(v) *Fukien Province.*—The estimated total strength in December, 1925, 69,000, of which about 50,000 are "red" or nationalist.

(c) *Armament.*—Except for the Whampoa Academy, the armament of the forces in south China is believed to be inferior compared with that of the provincial forces in north China. The standard of efficiency at the Canton Arsenal was, and is probably still, far below that, for instance,

of the Mukden Arsenal in Manchuria. However, since Soviet Russian influence has predominated at Canton the arsenal may have been improved, information being difficult to obtain on that account.

With regard to machine guns there are 80 heavy and 800 light machine guns at Whampoa, but nothing is known of their existence in the Provincial forces.

A gas factory is situated at Canton but no reports have come to hand of the use in the civil wars of either gas shell or projector gas.

Aviation in south China is negligible. There are a few machines at Canton and in July, 1925, these were reported to be in an extremely bad state of repair. In September, 1925, there were eight workable aeroplanes in Yunnan.

Tanks have not been introduced into any of the forces in the south.

(3) *The Military Situation in the North at the beginning of May.*

The position is as follows :—

(a) *"Red" Army :—*

Ist National Army and remnants of IIrd and IIIrd National Armies (total strength about 75,000) distributed between Kalgan and Nankow, with 30,000 holding the Nankow Pass.

(b) *"Anti-Red" Allied Armies :—*

Chang has 40,000 men in the outskirts of Peking and at Jehol. A further force of 30,000 has been detached in the direction of the Nankow Pass.

Wu is represented in the Peking area by a force of some 30,000 men.

The main body of his army (strength 60,000) is still in the Hankow area and in the Valley of the Yangtze. He has detached 30,000 to watch Hunan Province.

Li holds Tientsin with approximately 35,000 men.

Chang-tsung-Chang's Shantung army numbers about 30,000 men.

It has been stated, although unofficially, that the terms of the agreement between Wu and Chang were to be roughly as follows :—

- (a) A stable central government representative of both Fengtien (Chang) and Chihli (Wu) parties to be set up in Peking.
- (b) Punitive expeditions to be despatched against the "reds" in Canton as well as Mongolia.
- (c) Governors of Provinces to be nominated equally by both parties.
- (d) The post of Inspector-General of the Three Eastern Provinces (Manchuria) to be restored.
- (e) All private contracts concluded with foreign powers during Tuan's tenure of office to be discounted, as well as secret arrangements contracted between the Kuominchun troops and foreign powers.

(4) *The Central (Peking) Government.*

Marshal Tuan Chi-jui, who has held the post of Provisional Chief Executive since December, 1924, resigned his office and left the capital.

Tuan Chi-jui's anæmic dictatorship lasted fifteen months. He took up office at the behest of Chang and Feng, and he acted as a figure-head for them, holding the scales of the conflicting power they wielded. His personal integrity was beyond question, but he had little statesmanship with which to support it: the best that can be said of him is that he endeavoured to use his prestige to check and localize disorder.

(5) *Canton—Hong Kong.*

Reports indicate that there is no immediate prospect of an improvement in the boycott situation; the Canton government is till forced by the strikers to demand strike pay, and negotiations between the governments of Hong Kong and Canton cannot be satisfactorily re-opened until the latter withdraw this basic claim.

Russian influence in Canton is reported to be on the wane and there are signs of growing dissatisfaction with the strike organization and with labour agitators. There has been a conflict of opinion between moderates and communists in the Cantonese military forces in which the former have been successful.

An independent witness of events in China during the past year has offered the opinion that could the trade disturbances in China have been avoided, there would be 10,000 fewer unemployed in Great Britain to-day. To this has to be added the capital loss suffered by British merchants along the China coast.

### MONGOLIA.

*Soviet Policy in Mongolia.*

It would appear that the Soviet Republic has been working steadily towards furthering the following ends:—

- (1) The declaration by the Mongolian Government that the country had assumed the status of an independent autonomous republic.
- (2) The constitution of the autonomous republic of Mongolia on Soviet lines and with Soviet assistance.
- (3) The consolidation in Mongolia of Soviet commercial, political, and social interests.

In other words, Soviet Russia aims at the gradual absorption of Mongolia into the Union of Soviet Socialist Republics.

It is not easy at first sight to see how Soviet progress in a country so far removed from British territory can seriously affect British interests. However, the extent to which the anti-British boycotts and

outbreaks in China during the past twelve months have been supported—if not actually instigated—by Soviet emissaries and Soviet money is proof enough, when it is realized that a wholesale attempt has been made to ruin British trade in China. Mongolia has served as the main channel for this Soviet effort. British trade in China amounts in the average year to about 130 million pounds sterling—a valuable item.

However uncertain may be the future of China generally, and of British trade interests in China in particular, one fact stands out clearly, namely, that up to the present the Soviet have failed in their attack on British trade. It is true that they have achieved a partial success in Canton and Swatow where British trade is not accepted. But elsewhere in China the boycott on British goods has been removed and the attitude of Canton is looked upon with lessening sympathy.

More important still is the fact that there has been a sharp and universal set-back to Soviet aspirations and Soviet efforts in China—so much so that the present civil war in China is now being fought out on an anti-Soviet issue with the anti-Soviet alliance in pronounced ascendancy.

There is every evidence that Moscow is well aware of the set-back which her activities have sustained, and has accordingly modified her policy for the immediate future. Every effort is to be made to consolidate Soviet influence in Mongolia. With this accomplished, the offensive against the British Empire may be renewed, either by striking once again at British prestige and British trade in China, or by striking southwards through Sinkiang and Tibet towards British India with a view to fostering anti-British unrest there. The physical barrier of the Himalaya Mountains has not proved impassable to Soviet agitators.

#### GENERAL.

##### (1) *The Peking Government.*

The political situation at Peking can by no means be looked upon as stable. Early in May a coalition Cabinet was announced, but with the exception of the Premier the nominees have, generally speaking, been unwilling to assume office. The reluctance is doubtless due to their lack of belief in the reliability of the Wu-Chang alliance. It remains to be seen whether the coming meeting will inspire the necessary confidence.

On paper the Cabinet may be said to be representative of the Wu-Chang-Sun "anti-red" coalition, in that it includes two of Chang's representatives, one of Sun's, while the Premier, Mr. W. W. Yen,<sup>1</sup> belongs to the Chihli party, of which Wu himself has always been a staunch supporter.

<sup>1</sup> W. W. Yen is 49 years of age. He was Prime Minister at the time of Feng's *coup d'état* in 1924, which sent him out of office. He has been Minister to Germany and Denmark, and Secretary to the Chinese Legation at Washington.



(2) *Canton.*

There is no change in the general situation regarding the blockade of Hong Kong. The anti-Russian movement appears to be gathering strength, and Chiang (head of the Whampoa Military Academy and the most powerful Chinaman in Canton) has denounced Bolsheviks as being unfit to hold government posts in Canton.

(3) *Anti-foreign feeling.*

Although there have been practically no actual acts of violence since the summer of 1925, two incidents of importance occurred during May.

On 22nd May His Majesty's Consul at Swatow was assaulted by a party of a strike picquet while removing Communist posters from the front wall of the consulate. As a result of representations both to the Foreign Office at Peking and to the Canton Government, the Chinese Commissioner of Foreign Affairs at Swatow has tendered an official letter of apology, which adds that the Strike Committee have been notified that the offenders are to be punished.

The 30th May was the anniversary of the shooting incidents at Shanghai last year, which proved the forerunners of considerable anti-foreign violence and boycott all over China. There was no incident of any similar kind this year either in Hankow or Peking. At Shanghai, students and labour agitators succeeded in creating a certain amount of disturbance in the international settlement. The situation was promptly dealt with by the police without bloodshed. In view of the well-known tendency of the Chinese to celebrate such anniversaries by means of sympathetic action, the absence of serious trouble on 30th May may be regarded with satisfaction.

(4) *British Trade in China.*

Reports indicate that British coastal trade in China is now almost normal with the exception, of course, of Canton, Swatow and Amoy. At these three important ports, the ban on British trade is absolute; the consequent effect on Hong Kong is paralyzing.

Statistics from Canton indicate that the revenue returned through the Canton Customs reached a higher level for the last month recorded—January, 1926—than for any month during the past three years. Thus the port of Canton would appear, in one sense, to be benefitting by the severance of trade with Hong Kong and British shipping. As regards inland trade, the Chinese railways, upon which foreign trade is so dependent, have to a certain extent been released from the yoke of intensive military movements. But the permanent way and the rolling stock are almost universally reported as being in exceptionally bad condition.

## CORRESPONDENCE

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*[Correspondence is invited on subjects which have been dealt with in the JOURNAL or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, and publication of letters will be dependent on the space available in each number of the JOURNAL.—ED.]*

### CONTROL OF RADIO-TELEGRAPHY IN WARTIME.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—May I be allowed to trespass on your patience with reference to an article of mine on the "Control of Radio-Telegraphy in Wartime," which you did me the honour to print in your February number. Since then the General Strike has come and gone, and during that calamity some of the situations which I pictured in my article actually came about. It is now possible, therefore, to compare fact with theory.

The good results obtained by broadcast news and speeches were even greater than had been anticipated, and the advantages derived from the control of a highly efficient system of broadcast transmitters were fully demonstrated, by the effects produced, both in this country and in neighbouring countries on the Continent.

As far as it has been possible for a private individual to ascertain facts through the cloud of rumour, a definite threat was made that "the broadcast would be jammed" and it is almost certain that attempts were made to carry this out. The efforts, however, were so feeble as to suggest that they were individual and not organized; in fact they seem to have died of inanition due to their own futility rather than to have been "stopped by organized authority." Actually the few scattered attempts to interfere with reception seem to have consisted of the use of very small power spark transmitters, rather than the use of oscillating receiving valves.

From the beginning adequate steps were taken to protect the broadcasting transmitters, and the amount of force wisely displayed was sufficient to prevent anything which could possibly be described as an attempt to damage them.

The complete absence of other up-to-the-minute news may have had a considerable bearing on the situation, as all the population—however disposed—were so keen to get information as to what was happening. It is quite possible, therefore, that any organization which may have been prepared with the object of jamming reception was called off for this reason. From this point of view it would appear that the immobilization of news was as grave a tactical blunder as the immobilization of transport.

It is perhaps of interest to note that the broadcast strike news was read at sea as eagerly as on land. It was circulated as widely as possible and proved of the greatest interest in ships of all nations.

Yours, etc.,

Marconi House,  
12th July, 1926.

JOHN A. SLEE,  
Commander, R.N.

## AIR COMMUNICATIONS IN THE MIDDLE EAST

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—In your issue of May, 1926 (p. 338), Air Vice-Marshal Sir W. S. Brancker says of the "Emden": "In 1915, (1) the 'Emden' was sailing freely over the Indian seas; (2) She sank a number of ships in the Bay of Bengal; (3) For a time she lay off the mouth of the Hughli, completely paralysing the Calcutta shipping traffic; (4) Now, if we had four or five powerful commercial aircraft flying between Calcutta and Rangoon on mobilization, they could easily have been formed into an auxiliary unit—and, armed with torpedoes or bombs, would have made it perfectly impossible for the 'Emden' to do what she did."

May one venture to make a few remarks on these statements.

With regard to (1), the "Emden" was not moving "freely." She was being constantly moved on; she had to hide in the Maldivé Islands (September 28th to October 10th, 1914). Her collier, the "Markomannia," was sunk by the "Yar-mouth," off Simaloer (Sumatra) on October 12th; she narrowly escaped meeting the "Hampshire" on October 21st, and dared not remain anywhere more than a few days.

(2) Re a "number" of ships. The actual number of ships sunk in the Bay of Bengal during the time she was there (September 9th to 24th) was six: S.S. "Indus," "Lovat," "Killin," "Diplomat," "Trabboch," "Clan Matheson." The distances from shore were, in the case of the "Indus," 250 miles to Madras; "Lovat" ditto; "Killin" and "Diplomat," 300 miles to Calcutta; "Trabboch" and "Clan Matheson," 180 miles to Calcutta.

The fact that ships had no wireless or did not use it contributed to her success. (Fayle's "Seaborne Trade," Vol. 1, p. 209.)

(3) Re "for a time lying off the mouth of the Hughli," the "Emden" remained off the Hughli (but never nearer than 120 miles) for twenty-four hours, viz., September 14th-15th.

(4) Re "completely paralysing traffic," news of her presence was received by wireless from the S.S. "City of Rangoon" on September 14th. Sailings were stopped September 14th and re-opened September 22nd; closed again September 23rd, 2 a.m., after the bombardment of Madras, and re-opened on October 2nd.

(4) Re commercial aircraft on the Calcutta—Rangoon route; would it be so easy to convert them at once into bombers or torpedo planes? Would it be easy for a bomber to go out 200 miles and sink a ship whose position was not known with any degree of certainty? And if they suddenly were converted into bombers, may one not remember that out of scores of attacks on submarines by British aeroplanes during the war only seven hits are recorded as having achieved their object. When the "Goeben" was mined and run aground off Nagara, in 1918, only a small percentage of bombs hit her.

And, finally, how would one propose to distribute "four or five bombers" so as to make losses "perfectly impossible"? The "Emden" worked over a very wide area. Let us suppose that on September 14th a bomber had been sent to Colombo, assuming, of course, that the landing facilities existed. It may be doubted whether it would have saved the S.S. "King Lud" (September 25th), or "Tymeric" (September 26th).

The "Emden" then went off to the Minokoi Channel and was lost to sight. That aircraft could have rendered valuable help in patrolling the Indian coast is

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admitted. Nor need one doubt that they can contribute greatly to the defence of trade, but why imply that they can be a substitute for the Navy or Army? Aircraft are peculiarly helpless too in the case of such tasks as the "visit and search" of neutral ships. They cannot put a guard on board and send the ship into port; and their bombs would be of little use in work of this kind. It is loose statements such as the above, slipping into the currency of ideas on war, that had so much to do with the Dardanelles fiasco.

Not a single man-of-war was sunk by a Zeppelin. When the eleventh hour struck there were all over the world something like 5,400 auxiliary patrol craft. Only a small number suffered anything at the hands of aircraft.

(For information re the "Emden," see Corbett's "Official History of the War: Naval Operations," Vol. I; Fayle's "Seaborne Trade," Vol. I; Kreuzerkrieg, Vol. II; Anlage, Vol. I.)

Yours, etc.,

ALFRED C. DEWAR,

Captain, R.N. (retired).

17th July, 1926.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—In the course of Air Vice-Marshal Sir Sefton Brancker's most interesting lecture on "Air Communications in the Middle East" he makes the statement that no serious competitors to Imperial Airways presented themselves for operating the route between Egypt and India. This is hardly accurate. There would have been several had it not been for the impression in aviation circles that it was intended Imperial Airways should have the contract in any case, and that it was a waste of time to submit tenders. The result was that only one other proposal was put forward, that of Air Venturers, Ltd. Their scheme involved the use of twin-engined seaplanes down the Persian Gulf, with land machines for the remainder of the route. These seaplanes were to be similar to the one which flew from Spain to South America. The shipping companies with bases on the Persian Gulf offered their co-operation and, naturally, the Admiralty welcomed such a proposal, as it would have provided seaplane pilots and aircraft suitable for Naval work. The proposal had the disadvantage that two types of aircraft had to be employed between Egypt and India.

I am not prepared to argue that it is undesirable for all subsidized aeroplane routes to be controlled by one company—I think it probably is. That this is the opinion of the Air Ministry may be judged from the fact that only Imperial Airway representatives were asked to survey the route. Then why, ostensibly, put the service out to public tender? Presumably, the answer is the Treasury and political opinion make this desirable. From reading the lecture, however, it might be assumed that there was great lack of enterprise amongst British aircraft firms. My object is to show that this is not really so.

In conclusion, I should like to say how heartily I agree with the lecturer in his remarks on the great future of flying, as soon as the necessity for subsidies is a thing of the past. In the case of airships it may well be that they can now operate at a profit where bases are available. When the figures for the flight of the Norge from Italy to Alaska are available we should be able to form a good opinion.

Yours, etc.,

F. L. M. BOOTHBY,

Commander, R.N. (retired).

14th June, 1926.

## THE "GOLDEN HINDE"

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—It may be of interest to your readers to know that the original of Wing Commander Wyllie's picture of the "Golden Hinde," in your last issue, is now in the possession of the Heritage Craft Schools for Crippled Children at Chailey, Sussex.

It was presented to them by the artist, and could not be in a more suitable place, in view of the courage and cheerfulness with which the children are taught to, and do, face and overcome their difficulties.

The picture is reproduced, together with an account and chart of Drake's voyage, in a small booklet entitled the "Ships of Chailey," which can be obtained from the Heritage Schools.

Yours, etc.,

RONALD A. HOPWOOD,  
Vice-Admiral.

## THERE IS NOTHING NEW UNDER THE SUN

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—I hope that Colonel Field will not mind my pointing out a small error in his very entertaining article in the May JOURNAL, entitled "There is nothing new under the sun." He is evidently under the impression that "sakers and sakerets" were pieces of mediæval artillery, whereas they were actually trained falcons of a breed commonly used by English and French falconers of the 16th century, and still used in Asia.

The words "of shot," inserted by the author in parentheses, of course entirely destroy the sense of the passage quoted. The description was one of a kite-hawking party.

Yours, etc.,

C. F. A. PORTAL,  
Wing Commander.

30th June, 1926.

NOTE.—*Webster's dictionary gives two meanings to the word saker : 1. a falcon ; 2. a small piece of artillery.*—ED.

## PROMOTION BY MERIT IN THE ARMY

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—It appears to me that Lieutenant Foster, in his scheme for "Promotion by Merit," has omitted to consider the following points:—

(1) In spite of his remarks on the dismay with which many subalterns regard their prospects of promotion I do not think there is any great demand amongst them for the introduction of "Promotion by Merit"; my experience is necessarily very limited, but I have yet to meet an officer who supported such an innovation.

Until the officers of the Army themselves are, for the greater part, in favour of such a scheme its introduction can have little effect on future candidates.

(2) How can any C.O. conscientiously report on an officer's fitness for accelerated promotion after an acquaintance of a month to six weeks?

A C.O., given such a task, has his own duties to perform, he cannot devote himself entirely to the observation of one particular officer attached to his unit



for six weeks, and his opportunities of observation will therefore be limited ; in the end he will either be influenced by what he has already heard, or his own first impressions, of the officer, or he will be forced to admit his inability to report on him.

(3) Lieut.-Colonel Baird Smith has pointed out the difficulty of assessing "merit," but I would suggest that the fixing and maintaining of any fair standard of comparison as between officers of different units will prove a harder question to solve.

Lieutenant X. appears, to his own C.O., to be an officer of outstanding ability. Placed in another unit for a sufficiently long period (which under Lieutenant Foster's scheme he will not be), another observer, with different standards of comparison, would probably realise that Lieutenant X. was not very much above the average, and certainly not to such an extent as to merit accelerated promotion. In judging anything one is naturally influenced by the quality of similar articles with which one can at the time compare it, and this applies equally truly to human beings as to inanimate objects.

It has since been generally admitted that in the scheme of retiring surplus officers in the Indian Army much depended on an officer's surroundings and the interpretation which his C.O. placed on his instructions as to whether he was retained or not.

(4) Supposing a fair percentage of junior officers are to be passed over by their more fortunate brethren, what effect will this have on their influence with their men ? Surely bad, and no officer could continue to serve whose influence had been lost—there would consequently be numerous resignations and the question of supply would quite overshadow that of accelerated promotion.

Yours, etc.,

Kurram Militia,  
Parachinar,  
N.W.F.P.

H. D. MOORHEAD,  
Captain.

29th March, 1926.

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## GENERAL SERVICE NOTES

### GOVERNMENT'S POLICY FOR CO-ORDINATION OF THE SERVICES

Speaking on behalf of the Government in the House of Lords on 16th June last, the Earl of Balfour, Lord President of the Council, made important pronouncements dealing with the present status of the Committee of Imperial Defence, the duties of the Chiefs of Staffs and the objections to a Minister of Defence. He also announced the decision to establish an Imperial Defence College.

The following report of Lord Balfour's speech is reproduced from the Parliamentary columns of the *Times* :—

THE COMMITTEE OF IMPERIAL DEFENCE.—The only question upon which he differed with Lord Thomson, said Lord Balfour, was in respect to his opinion that the Committee of Imperial Defence should be an executive body. One of the advantages of that Committee was that every Department felt that it had a body which helped it and did not order it. He was perfectly certain that directly the various Departments of State felt that this was a method by which they were to be ordered by a body which was other than the Cabinet, and which had its own separate secretariat, they would instinctively place themselves in a position of hostility and opposition to it.

The organization of the Committee of Imperial Defence<sup>1</sup> on its present exceptional basis required as an essential element that, while it had every power to examine, to initiate, and to revise, it had no power to order and command.

Of course, everybody desired co-ordination on the score of economy and efficiency. Under the existing system a degree of co-ordination had already been

<sup>1</sup> *The following are ex-officio members of the Committee of Imperial Defence who, "having regard to the nature of the subject to be discussed, he (the Prime Minister) may from time to time summon to assist him" :—*

*The Chairman (Deputy to the Prime Minister).*

*The Secretary of State for War.*

*The Secretary of State for Air.*

*The First Lord of the Admiralty.*

*The Chancellor of the Exchequer or the Financial Secretary.*

*The Secretary of State for Foreign Affairs.*

*The Secretary of State for the Colonies.*

*The Secretary of State for India.*

*The Chiefs of Staffs of the three fighting Services.*

*The Permanent Secretary to the Treasury.*

*In addition to these, other British or Dominion Ministers of the Crown and other officials, or persons having special qualifications, will be summoned as members by the President according to the nature of the business.—(Report of the Subcommittee of the Committee of Imperial Defence, 1924. Cmd. 2029).*

attained and was being pursued far in excess of anything that our forefathers ever dreamed of. The most careful and competent examination was being engaged in in connection with all the Departments, he was happy to say, with the best results. He understood it was the intention of the Prime Minister and the Chancellor of the Exchequer that there should be a debate on the whole question of defence as a sort of preliminary to dealing with the Estimates of each of the different Services in their turn. He was sure that that would produce valuable results.

**A COLLEGE OF IMPERIAL DEFENCE.**—On the military side they were in the process of establishing a College of Imperial Defence. He did not suppose that the result of the tuition which that or any other institution would give to ordinary human beings would turn out men equally competent to take command of the Army, the Fleet, or an air expedition. But it was all-important in these matters that soldiers, sailors, and airmen should as a matter of course understand something of what their colleagues in the other Forces could and did do.

**CHIEFS OF STAFFS.**—The policy of the Government was quite clearly expressed in the report of the Commission presided over by Lord Salisbury. It was stated there quite unequivocally that the Chiefs of Staffs ought to meet together in consultation in order to give advice to the Cabinet. He was sure that that could be done and that the actual existing heads of the three Staffs had already become accustomed to work together sympathetically and with great anxiety to bring their separate knowledge into the common stock with a view to coming to a common opinion which they could lay before the Committee of Imperial Defence.

It had already been done, but the Government thought that this was so important that it would be desirable to give every possible emphasis to the policy recommended by Lord Salisbury and whole-heartedly accepted by the present Cabinet. It was therefore proposed that there should be a special warrant by the Prime Minister, couched in the stately language of a bygone age, in which the duties of the three Chiefs of Staffs should be enumerated.

The whole point was that these three distinguished officers should meet together, not with the view of each fighting his own corner and dealing with his own aspect of the question; not only with the natural duty of working harmoniously with their colleagues, but with the specific command, embodied in the warrant, that they would be held singly and collectively responsible for the policy which they recommended. He believed that the warrant would make every man who accepted the position of Chief of Staff in the three Services take office with the full consciousness that one of their duties, which was as clear as any duty ever thrown on them, was individually and collectively to work to the common end which he had described. In its effects, this would be a most important step towards co-ordination between the three Services.

**SUB-COMMITTEES.**—There were, at this moment, thirty sub-committees of the Committee of Imperial Defence doing most laborious work. He did not think anyone could describe the system he had indicated as being deficient in co-ordination. He did not at all say that co-ordination could not be improved, but he confidently said that it had already accomplished much and was in process of accomplishing more.

**OBJECTIONS TO A MINISTER OF DEFENCE.**—His criticism of the proposal to add to or substitute for the three existing Cabinet Ministers for the fighting Services a Minister of Defence was that they would be asking this new Minister to do more

than he could possibly accomplish ; but at the same time they would not be asking him to do enough. Even if he could do all the work that was thrown upon him, they would still leave most important elements in modern warfare outside his sphere.

They would not be asking him to do enough unless, among his duties, they counted the co-ordination of all the energies of the country for warlike purposes. Modern war differed entirely from the wars with which they were familiar in history in that every sphere of national activity was called upon to subserve the great single purpose of winning the victory.

He could not see what possible gain there would be in introducing a Minister of Defence if they left the Committee of Imperial Defence as it was, because that Committee could and did carry out the work of co-ordination. That institution had been tried in peace and in war. It was an institution which, from its character, could never become rigid or bureaucratic. It was capable, as no other institution could be, of covering the whole ground through its Committees, and to do anything which would lessen its utility or overshadow it would be to run counter to its avowed object of giving us co-ordination.

#### THE IMPERIAL DEFENCE COLLEGE

It is officially announced that Vice-Admiral Sir Herbert W. Richmond, K.C.B., lately Commander-in-Chief of the East Indies Station, has been selected as the first Commandant of the Imperial Defence College. He will have a small staff, representative of the three Services, to assist him.

#### SLAPTON SANDS "LANDING." A COMBINED EXERCISE

Between 29th June and 7th July a Combined Exercise was carried out to enable officers of the three Services to study the problem of landing a mechanicalised force on an open beach in the face of limited opposition.

The Navy was represented by Rear-Admiral V. H. S. Haggard, from the Submarine headquarters at Portsmouth. With him was a staff of Naval and R.M. Officers.

General Sir Alexander Godley, G.O.C.-in-C. of the Southern Command, took an active part on the Army side and had with him a skeleton staff which included a Colonel Commandant of the Tank Corps, a Director of Medical Services and a Wing Commander from the School of Co-operation at Sarum.

The Air Force was represented by Air Commodore E. A. D. Masterman and a staff of officers from that Service.

The Sea Transport Department of the Board of Trade was also represented.

After preliminary discussions at Portsmouth and Plymouth, the Exercise eventually developed into one similar to a "staff ride," except that for part of the time the participants were afloat, the object being to work out the organization for landing a force consisting of :—

- 2 Armoured Car Companies ;
- 1 Battalion of Tankettes ;
- 1 Brigade of Infantry ;
- 2 Batteries of pack guns and their attendant Signal, R.E. and Ambulance formations.

The place selected for the imaginary landing was Slapton Sands, but the main problems were such as would be common to opposed landings in general.

It is probable that many of the details have already been considered at Staff College Combined Exercises, and the broad principles are now fairly well covered in the official publications dealing with this form of combined operation. This Exercise, however, was of great value in that it initiated practical co-operation between local Naval, Military and Air Force authorities, and it is to be hoped that this good example will be taken up by many other Commands.

One of the most conspicuous needs for disembarking such a force was found to be self-propelled shallow-draught craft capable of being hoisted out of ordinary cargo ships, such as would be used in war for sea transports, and capable of ferrying to the beach at least light tanks and armoured cars. This has been one of the recurring lessons of every scheme of the kind worked out since the war, and very little progress can be made beyond theorising until practical trials with specially built craft have been carried out. Until this is done, too, the inevitable conclusion at the end of any exercise must be that a mechanicalised force *cannot*, at present, be landed on a beach, because neither the Navy, the Army, nor the Board of Trade has proper craft to land it.

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## NAVY NOTES

### GREAT BRITAIN

#### THE ADMIRALTY BOARD

During the Easter recess, the First Lord of the Admiralty, with Dame Caroline Bridgeman, visited Gibraltar by steamship, being away for about three weeks. He inspected the Dockyard and Naval Establishments at Gibraltar, and was the guest during his stay of Rear-Admiral R. G. A. W. Stapleton-Cotton, C.B.E., M.V.O., the Admiral-Superintendent. Shortly after his return, on 26th May, the First Lord visited Dartmouth Royal Naval College.

In reply to a question in Parliament, the Secretary to the Admiralty stated that the only definite rule or regulation on the subject of the period of employment of officers at the Admiralty is that laid down in Article 243 of the King's Regulations and Admiralty Instructions, to the effect that no executive officer will be allowed to hold an appointment or appointments that may be defined by the Admiralty to be "shore employment" for more than five consecutive years, or, in the case of members of the Board of Admiralty, for more than seven consecutive years, except in special circumstances which may, in the opinion of the Admiralty, justify an extension of the appointment in particular cases. Appointments at the Admiralty are generally, however, either for two or three years.

#### THE FLAG LIST

PORTSMOUTH COMMAND CHANGE.—On 28th April, Admiral Sir Sydney Fremantle, K.C.B., M.V.O., hauled down his flag as Commander-in-Chief at Portsmouth after an eventful three years in this command, which had included the Royal Naval Review, of July, 1924, the resumption of cruiser construction, the restoration of the "Victory," the departure and return of the Special Service Squadron on its world cruise; and the departure and return of the Prince of Wales on his tour to South Africa and South America. Sir Sydney was succeeded by Admiral Sir Osmond Brock, K.C.B., K.C.M.G., K.C.V.O., formerly Commander-in-Chief in the Mediterranean.

SELECTIONS FOR COMMANDS.—The vacancy at Rosyth, created by the appointment, on 20th February, of Vice-Admiral Sir Walter Cowan, Bt., K.C.B., D.S.O., M.V.O., to be Commander-in-Chief on the North American Station, was filled on 17th May by the announcement that Rear-Admiral Humphrey W. Bowring, D.S.O., had been selected to be Rear-Admiral and Commanding Officer, Coast of Scotland, to date 2nd June, 1926. Owing to the closing down of Rosyth Dockyard, Rear-Admiral Bowring is not styled "Admiral-Superintendent," as was his predecessor.

Four important selections for commands were published on 29th May, as follows: Vice-Admiral Hugh D. R. Watson, C.B., C.V.O., C.B.E., to be Vice-Admiral Commanding Reserve Fleet, in succession to Vice-Admiral Sir Rudolf W. Bentinck, K.C.M.G., to date 3rd October; Vice-Admiral Sir Rudolf W. Bentinck, K.C.M.G., C.B., to be Commander-in-Chief, Plymouth Station, in

succession to Admiral Sir Richard F. Phillimore, K.C.B., K.C.M.G., M.V.O.; Rear-Admiral William H. D. Boyle, C.B., to be Rear Admiral Commanding First Cruiser Squadron, in succession to Rear-Admiral Arthur K. Waistell, C.B., to date 9th September, and to assume command about 9th October; Rear-Admiral the Hon. Herbert Meade, C.B., C.V.O., D.S.O., to be Rear-Admiral (D.) Commanding the Destroyer Flotillas of the Mediterranean Fleet, in succession to Rear-Admiral Albert P. Addison, C.B., C.M.G., to date 1st August. He will assume command 1st September approximately.

On 26th June, the Admiralty announced the appointment of Rear-Admiral D. T. Norris, C.B., C.M.G., to be Rear-Admiral in the First Battle Squadron, Mediterranean Fleet, to date 1st October. The approximate date of his assuming command is 1st November. Rear-Admiral C. M. Staveley completes a year as Rear-Admiral in the First Battle Squadron on 25th October.

**R.M. PROMOTIONS.**—By the retirement, at his own request, of General Sir Herbert Blumberg, K.C.B., to date 16th June, the following promotions in the Royal Marines were announced to take effect from the same date: Lieut.-General St. G. B. Armstrong, C.B., C.M.G., to be General; Major-General Picton Philipps, C.B., C.M.G., M.V.O., to be Lieut.-General; Colonel Commandant F. C. Edwards, A.D.C., to be Major-General; Colonel Second Commandant R. O. Paterson, O.B.E., to be Colonel Commandant; Lieut.-Colonel A. G. Little, C.M.G. (Director of Naval Recruiting), and Lieut.-Colonel C. L. Mayhew, to be Colonels Second Commandant, 16th June.

**FLAG LIST CHANGES.**—A run of promotions to and retirements from the Flag List was started on 6th July, when Vice-Admiral Crawford MacLachlan, C.B., retired at his own request, in order to facilitate the promotion of junior officers. In consequence, Rear-Admiral Aubrey C. H. Smith, C.B., M.V.O., was promoted to Vice-Admiral, and Rear-Admiral Cyril S. Townsend, C.B., on return from service under the Greek Government, was absorbed into the Rear-Admirals' List in the vacancy.

Vice-Admiral Aubrey Smith being placed on the retired list on promotion (although he will retain the post of Naval Representative on the Permanent Advisory Commission to the League of Nations), Rear-Admiral Hugh L. P. Heard, C.B., D.S.O., was promoted to Vice-Admiral, and Captain Charles A. Fountaine, C.B., A.D.C., to Rear-Admiral, to date 7th June.

Vice-Admiral Heard was placed on the retired list on promotion, and in consequence, Rear-Admiral Cyril T. M. Fuller, C.B., C.M.G., D.S.O., was promoted to Vice-Admiral on 8th July, and the following to Rear-Admiral from the same date: Captain Thomas E. Wardle, C.B., D.S.O., A.D.C. (Supernumerary whilst lent to the Australian Government); Captain (Commodore 2nd Class) Alister F. Beal, C.B., C.M.G., A.D.C. (Supernumerary whilst lent to the New Zealand Government); and Captain Bernard St. G. Collard, C.B., D.S.O., A.D.C.

Rear-Admiral C. A. Fountaine, retired at his own request, following his promotion on 8th July, whereby Captain Charles T. Hardy, C.B.E., A.D.C., was promoted to Rear-Admiral.

Rear-Admiral T. E. Wardle, C.B., D.S.O., has been placed on the Retired List at his own request; and Rear-Admiral C. T. Hardy, C.B.E., has been placed on the Retired List (July 9th). Consequent thereon, Captain H. H. Smith, D.S.O., A.D.C., has been promoted to the rank of Rear-Admiral in His Majesty's Fleet from the same date.

Rear-Admiral H. H. Smith, D.S.O., has been placed on the Retired List (10th July). Consequent thereon, Captain O. E. Leggett, C.B., A.D.C., has been promoted to the rank of Rear-Admiral in His Majesty's Fleet from the same date.

Rear-Admiral O. E. Leggett, C.B., has been placed on the Retired List (11th July). Consequent thereon, Captain H. W. W. Hope, C.B., C.V.O., D.S.O., A.D.C., has been promoted to the rank of Rear-Admiral in His Majesty's Fleet from the same date.

In consequence of this run of promotion on the active list, a number of officers received steps in rank on the retired list. Among them, Captains W. M. Moir, C.B.E., W. R. G. Petre, D.S.O., G. J. Todd, D.S.O., H. G. E. Lane, C.B.E., C. W. Bruton, C.M.G., Arthur Bromley, C.M.G., and L. R. Oliphant, were promoted to be Rear-Admirals (retired).

DEATHS OF FLAG OFFICERS.—Admiral Sir Wilmot Fawkes, Commander-in-Chief in Australia in 1905-08, and afterwards at Plymouth, died suddenly on 29th May, in his eightieth year. Other Flag Officers whose deaths have been notified since the last issue of the JOURNAL include Admirals W. B. Fisher, on 8th May, Thomas MacGill, on 16th April, and R. S. Rolleston, on 16th March. Admiral MacGill was navigating commander of the "Alexandra" when the King was a lieutenant in her, and the widow received a message of condolence from His Majesty through Lord Stamfordham.

#### PRINCE GEORGE AND NAUTICAL RESEARCH

At the Annual Meeting of the Society for Nautical Research, held on 26th May, at the Royal United Service Institution, the announcement was made by Admiral Sir George Hope, K.C.B., K.C.M.G., Chairman of the Council, that Lieutenant H.R.H. Prince George, R.N., with the consent of the King, had accepted the position of Patron of the Society for Nautical Research. His Majesty has taken a great interest in the work of this Society, and particularly in the movement which it inaugurated and carried through to preserve and restore the "Victory" at Portsmouth. It is gratifying to the members to know that this interest will now be shared by his son.

#### FOREIGN PRINCES AND THE ROYAL NAVY

The *London Gazette* on 23rd April notified that in pursuance of His Majesty's pleasure, Prince Nicholas of Roumania and Prince Charles of Belgium had been appointed Honorary Sub-Lieutenants in His Majesty's Fleet, to date 6th December, 1925, and 26th March, 1926, respectively.

Prince Charles of Belgium, who entered Osborne College as a cadet in 1917, performed the opening ceremony in July at the completion of a new building in connection with the Missions to Seamen Institutes. On 27th June, he unveiled a tablet in commemoration of the assault on the Zeebrugge Mole in 1918.

#### THE GENERAL STRIKE

On the declaration of a state of emergency, owing to the General Strike, a number of ships and vessels in Home waters were sent to special destinations, not only to assist in the preservation of order and the protection of public property, if needed, but for various other duties. These included the supply of electric power to docks and mills, the landing of artificers and stokers to help run the power stations, the conveyance of yeast and other food supplies, and the maintenance of the mail services.

The following is a summary of the distribution of most of these ships at the time the General Strike was called off: In the Clyde, "Hood," "Warspite," "Furious," "Comus"; At Liverpool, "Ramillies," "Vidette," "Westminster," "Wolfhound"; At Avonmouth, "Caledon"; At Swansea, "Tetrarch"; At Barrow, "Whitley," "Walpole"; At Bristol, "Windsor"; At Pembroke, "Campbell," "Sparrowhawk"; At Cardiff, "Cleopatra"; At Belfast, "H.52" Submarine; At Newport (Mon.), "Simoon" and "H.24" Submarine; At Salford, "Wessex"; Falmouth, "Valhalla"; At Immingham, "Vortigern"; At Hull, "Godetia," "Enterprise," "L.27" Submarine, "Versatile," "Velox"; At Middlesbrough, "Wakeful," "Venturous"; At Harwich, "Westcott," "Turbulent"; At Newcastle-on-Tyne, "Wallace," "Vancouver," "L.22" Submarine; At Thameshaven (for distributing petrol, London area), "Marshal Soult," "Shamrock," "Yeovil"; In the Albert Docks, "Sportive," "L.12" and "M.3" Submarines; In the Surrey Commercial Docks, "Tenedos"; In the West India Docks, "Conquest"; In Milwall Docks, Submarines "L.11" and "L.21"; In Tilbury Docks, "Newark"; At Southampton, Submarine "H.31"; At Port Victoria, "Tower."

Well over a score of power stations in the London area were taken over by, or run with the assistance of, naval ratings; in addition to those in the Provinces. Included in the former were the stations of the Hammersmith, Fulham and Marylebone Borough Councils, and of the London Electric Railway, Lots Road, in the South-Western District; and the following in the North-Western District: Central London Railway, Shepherd's Bush; Great Western Railway, Park Royal; London, Midland and Scottish Railway, Stonebridge Park; Metropolitan Railway, Neasden; London and North Eastern Railway, Holloway; and Islington Borough Council, Eden Grove, Holloway. In the South-Eastern District, the stations included those of the City of London Electricity Company, Bankside; the Southwark Borough Council, Walworth; the South London Electric Supply Corporation, Loughborough Junction; the County of London Corporation, Wandsworth; the Southern Railway, Wimbledon; the Wimbledon Borough Council; the Beckenham Urban District Council; and others. In the North-Eastern District were the L.N.E.R. power station at Stratford and the Leyton Urban District Council station at Leytonstone.

Writing in the *Daily Chronicle*, a special correspondent described how Naval personnel fulfilled a variety of duties at the docks during the strike and thereby kept going the food supplies of London. One sailor worked a swing bridge, and others busied themselves with novel but necessary tasks to keep the riverside machine working. The greatest call on the resourcefulness of the Navy, said this writer, occurred just two days before the strike ended, when the port was declared a "black port," and the men in West Ham power station would no longer give the docks what they called "black juice." Without current London's food convoys would have been hampered to a degree which would have proved disastrous—no light, no power for the cranes, no power to maintain refrigerating plant in warehouses. The writer continued: "The four submarines and the parent ship moored alongside the quay where the dock power house stands, threw out cables, connected up, and once again the "juice" was turned on. There was not too much of it, but there was sufficient for lighting and haulage purposes, and the convoys left for London as usual, keeping up supplies and keeping down prices for strikers and non-strikers alike. In this way was power maintained for two days—until the strike was called off—at the Royal Albert, Victoria and King George Docks, and for that effort London and the Home Counties largely owes a breakfast table as cheap and as ample as in pre-strike days."

The work of the Navy at the docks was also recorded as follows by a special correspondent of *The Times*: "This feat of opening the London Docks in five days—the most urgent and difficult problem set by the general strike—was mainly due to the splendid work of the Civil Commission for the Dock Area, Lieut.-Colonel Moore Brabazon, M.P., and his staff of Civil servants from the Government Departments, powerfully supported by the Admiralty, the War Office, and the Port of London Authority. The Navy, as always, were the handiest and most resourceful solvers of every difficulty. When the electrical power at some of the docks had been cut off by Borough Councils of Labour complexion the Navy in a few minutes substituted the concentrated power of submarines, and work was carried on as before. When the whole service of tugs and lighters between docks and wharves with the up-river wharves had been frozen by the strike, the Navy restored it and, in their own language, "proceeded as requisite" with such entertaining efficiency that after a day or two the wharves could not discharge enough goods to supply the flotilla of barge and lighter convoys which was proudly flying for the first time in history the White Ensign of England."

An extra week's leave was granted to all officers and men on strike duty, and those recalled from foreign service leave were allowed travelling expenses.

General letters of appreciation of the services of Naval Parties during the recent General Strike were received by the Admiralty from the following bodies, with a request that their thanks may be conveyed to the officers and men concerned:—

Ministry of Transport.

Board of Trade (Food Department and Petroleum Department).

London Midland and Scottish Railway Company.

London and North Eastern Railway Company.

Lord Mayor of Bristol.

Shell-Mex, Ltd.

Anglo-American Oil Co., Ltd.

Union Lighterage Co., Ltd.

The Leith Dock Labour Employers' Association.

Leith Dock Commission.

Port of Bristol Authority.

#### PERSONNEL

**THE KING'S COLOUR.**—On 29th June, the first King's Colour for the Royal Navy at Home, the institution of which, by the approval of His Majesty, was recorded in the *JOURNAL* in May, 1925, was delivered into the custody of the Commodore of the Royal Naval Barracks, Portsmouth, with appropriate ceremony. The Commander-in-Chief, Admiral Sir Osmond Brock, K.C.B., K.C.M.G., K.C.V.O., handed the Colour to Lieutenant K. S. Lyle, Colour Officer, and it was subsequently borne from the parade ground to be deposited over the doorway in the Officers' Mess. On the foreign stations, the first delivery of the King's Colour is believed to have been that at Simonstown, where, in the West Dockyard, on 3rd June, the King's birthday, the Colour was handed to the African Squadron by H.R.H. Princess Alice, Countess of Athlone. Lieutenant G. M. F. Fuller, of the flagship "Birmingham," was the Colour Officer.

**BERTRAND STEWART PRIZE ESSAY.**—The subject selected for the Bertrand Stewart Prize Essay for next year is as follows:—

"Having in mind the imperative necessity for the greatest reduction possible, consistent with safety, in the annual cost of the three fighting



Services, how can the essential military requirements of Imperial Defence best be met? No account should be taken of any international agreement for disarmament beyond that already entered into at Washington."

**RONALD MEGAW PRIZE.**—The Ronald Megaw Memorial Prize for 1925-26, consisting of a presentation sword and its accoutrements for the sub-lieutenant obtaining the highest place during the preceding year in the various examinations prescribed for officers qualifying for the rank of lieutenant, was awarded in June to Sub-Lieutenant E. K. Le Mesurier, R.N., of H.M.S. "Revenge."

**COMMANDER EGERTON PRIZE.**—The Commander Egerton Memorial Prize for 1926, awarded annually to the officer who, when qualifying for gunnery lieutenant passes the best examination in practical gunnery, was bestowed on 2nd July upon Lieutenant R. G. Mackay, R.N., of H.M.S. "Excellent."

**RYDER MEMORIAL PRIZE.**—This prize has been awarded to Sub-Lieutenant J. D. Shaw-Hamilton, R.N., H.M.S. "Calypso," who passed the best examination in French in the Sub-Lieutenants' Educational Courses at the Royal Naval College, Greenwich, during 1925.

No Ryder Prize was awarded on the result of the Annual Examination in Foreign Languages held in December, 1925, as no Executive Officers were candidates in French at that examination.

**Ogilvy Gold Medal.**—This medal for the year 1926 has been awarded to Lieutenant W. W. Davis, R.N., H.M.S. "Vernon."

**COURTS-MARTIAL AND RETIRED PAY.**—An Order in Council, published in the *London Gazette* on 4th June, provides that officers who have lost service as the result of sentence by court-martial shall be eligible, at the discretion of the Admiralty, for retired pay at a lower rate, by not less than 10 per cent., than the amount of retired pay to which, but for the loss of service as the result of sentence they would have been eligible if placed on the retired list for incapacity; or for retired pay at a rate not exceeding the rate for which, if placed on the retired list for incapacity, such officers would have been eligible in virtue of their service as reduced by sentence of court-martial, whichever rate is the lower.

**MEDICAL OFFICERS' CONDITIONS.**—Mr. Baldwin announced in the House of Commons on 15th June, that the Government had decided to give effect as from 1st July to the recommendations of the Committee appointed last autumn to consider questions relating to pay and other matters affecting recruitment of officers and nurses to the medical branches of the fighting Services. The resultant changes in the Royal Naval Medical Service and in Queen Alexandra's Royal Naval Nursing Service were published as a Fleet Order (1857) on 2nd July. The number of surgeon-captains was increased from 16 to 20; specialist appointments and allowances were increased; charge pay was granted; general and specialist courses extended; and concessions made in regard to time in hospital appointments. In the dental branch, the rank of surgeon-captain (D) was introduced and the establishment increased to 64.

**PORTSMOUTH ROYAL NAVAL CLUB.**—Fleet orders notify that at the annual meeting of the Royal Naval Club, Portsmouth, a new scheme of membership was instituted for the benefit of younger officers of the Service. Those on the active list, of or under the rank of lieutenant, may join at an annual subscription of £2 2s. per annum, without entrance fee, and present members, eligible to join under this scheme, will be allowed for a limited period to transfer to it.

**PRE-WAR PENSIONS.**—Further provision with respect to the re-assessment of former War Disability Pensions of British seamen and marines who served in the Great War, and of certain injury pensions of British seamen and marines disabled in consequence of former wars, was made by Orders in Council published in the *London Gazette* on 29th June. As regards the injury pensions, none of these was to be increased by re-assessment under the new regulations by an amount greater than is sufficient to bring the total means of the pensioner up to £150 a year if unmarried, or £200 a year if married.

**TRAINING OF A.B.'S.**—A new Order regarding the training of able seamen came into force on 15th June. It has been decided to modify the arrangement under which ordinary seamen might be rated A.B. after not less than six months' service in the former rating, as it has been found that such men are unable in a short period to acquire adequate knowledge and experience of the duties expected of an A.B. Ordinary seamen will not normally be rated able seamen until they have completed 18 months as O.S., including the time spent in training classes. If, in special cases, the captain is satisfied that an O.S. is fit for the A.B. rating at an earlier stage, he may rate the man A.B. at any time after not less than 15 months' service as ordinary seaman. But in either case, before a man is advanced, he must have served for nine months in a seagoing ship.

**THE SHORE WIRELESS SERVICE.**—It was announced in May that no applications for transfer to the Royal Naval Shore Wireless Service are to be forwarded at present. This force is recruited from telegraphists in the active Fleet, and its members are liable to revert to active service at any time.

**SURPLUS OF PETTY OFFICERS.**—The Admiralty announced in June that the numbers of seaman petty officers and leading seamen to be authorised for 1926, will be less than the numbers authorised for the past year. In order to maintain a flow of advancement it has been decided that until further orders every second vacancy for seaman petty officer which would normally be filled from the Port Division Advancement Rosters, will be left unfilled, and every fifth vacancy for leading seaman, which would normally be filled from the Port Division Advancement Rosters, will similarly be left unfilled. Advancement of chief petty officer and "ship advancements" to seaman petty officer and leading seaman will proceed on normal lines.

#### MATERIAL

**PROGRESS OF NEW SHIPS.**—Specialist officers have been appointed for duty with the "Nelson" and "Rodney," completing at the Armstrong Whitworth and Cammell Laird yards respectively. The vessels are expected to replace the "Resolution" and "Royal Oak" in the Mediterranean Fleet early next year. The first post-war destroyers, "Ambuscade" and "Amazon" are scheduled to be finished in September and October respectively; and the cruiser-minelayer "Adventure" at Devonport in December.

**NEW SUBMARINE NAMED.**—It has been decided to introduce names for submarines, and "O.I." building at Chatham, which is to be completed on 31st December, will be known as the "Oberon," a name borne by various small craft since 1805, and last given to a destroyer of the war programmes.

**"DE-STORING" WARSHIPS.**—Amendments issued in April to the Drafting Regulations and the Instructions for Guidance of Officers in Central Storekeeping contain a definition of the term "de-storing." This is understood to mean the

return to the naval store officer of all naval stores in the ship, with the exception of those specified in the Appendix to A.F.O. 605/26, which are to be retained on board and transferred to the custody of the captain of the dockyard. It also involves the closing of the ship's store accounts. A ship is not "de-stored" when her stores in whole or in part are landed into a lay-apart store or similar accommodation for such purposes as working in store rooms. In every instance of "de-storing" local arrangements are to be made to ensure that the work is completed, and the central storekeeping ratings returned to depot, with the least possible delay.

### FLEET AIR ARM

OFFICERS VOLUNTEERING FOR OTHER SPECIALIST DUTIES.—An Admiralty Order states that attachment to the Fleet Air Arm does not render Naval Officers ineligible for selection later on to qualify as specialists. Naval Officers who have completed Period A in the Fleet Air Arm may volunteer, and are eligible for consideration for training as Specialist Officers.

### ROYAL NAVAL RESERVE

MASTER MARINERS.—As the outcome of a meeting held in London on 8th July, 1925, an association entitled the Company of Master Mariners was registered on 28th June, 1926, at Somerset House. A hundred of the leading men of the British Merchant Service, including some of its foremost officers to-day, form the Foundation Council. One of the objects is to secure for master mariners a position more worthy of their traditions and achievements.

THE TRAINING OF R.N.R. PERSONNEL.—The Admiralty have decided that the "Boyne" and "Cherwell," formerly spare ships in the fishery protection flotilla, but employed recently as a temporary mine-sweeping flotilla, are to be retained in commission for the training of Royal Naval Reserve personnel in peace, on the understanding that the necessary ratings required for the crews of these vessels are provided from the first mine-sweeping flotilla, and that the fuel for the ships is met from the annual provision for vessels under the command of the Captain (A.P.).

### ROYAL NAVAL VOLUNTEER RESERVE

LONDON DIVISION.—H.M.S. "President," the drill ship, after completing her refit at Chatham, was taken to London Docks for use in connection with the general strike, eventually arriving at her moorings off Victoria Embankment on 21st May.

TYNE DIVISION.—The Division camped out during June at Whitburn Camp, when a field gun display, athletic sports, rifle drill and shooting on the range were carried out. Sea training was limited owing to small-pox in the Newcastle-on-Tyne area.

BRISTOL DIVISION.—The First Mine-sweeping Flotilla visited Bristol and were entertained by the Division.

CLYDE DIVISION.—The boats of the Govan Division were shifted to Greenock as being more suitable for general work. Out of four miniature rifle competitions with H.M.S. "Comus," the R.N.V.R. team won three.

**EAST SCOTTISH DIVISION.**—Detachments took part in a Military Tattoo during July.

**ULSTER DIVISION.**—Detachments with field gun crews took part in a Military Tattoo in July and August.

**MERSEY DIVISION.**—H.M.S. "Eaglet," which is to be paid off and sold on relief about the end of August, was the scene of a farewell dinner attended by many officers of R.N., R.N.R. and R.N.V.R. on 2nd June. The "Eaglet," whose name has been changed from H.M.S. "Eagle," was launched in 1804, and was in the fleet till 1862, since when she has been a drill ship in the Mersey. A new drill ship—H.M.S. "Goole"—will relieve H.M.S. "Irwell," now at Manchester, and be renamed "Irwell"; the "Irwell" will take the place of the "Eaglet" at Liverpool and will then be known as H.M.S. "Eaglet" (old).

**GENERAL REMARKS.**—The accommodation of the Atlantic Fleet was completed by officers and men of the R.N.V.R. for the Spring Cruise to the Mediterranean; the numbers volunteering exceeding the accommodation available.

Admiral Commanding Reserves inspected the Clyde, East Scottish, London, Mersey and Tyne Divisions.

**EASTER CRUISE.**—London and Sussex Divisions sent detachments with R.N. Instructors for a five days' Easter Cruise in H.M.S. "Champion," carrying out, as far as possible in the short time available, the usual duties, combined with training.

**BISLEY.**—On 17th July the three R.N.V.R. Competitions were shot for.

#### Results :

*R.N.V.R. Inter-Port Rifle Cup.*—Tyne, winners; Sussex, 2nd; Clyde, 3rd; Mersey, 4th; London Division, 5th.

*R.N.V.R. Inter-Port Revolver Cup.*—Sussex, winners; Clyde, 2nd; Tyne, 3rd; Mersey, 4th; London Division 5th.

*The Graham Cup* (highest individual score with .303).—A. B. Osborne, Sussex Division, winner; Ord. Seaman Bedford, Sussex Division, 2nd; Lieutenant Hindhaugh, Tyne Division, 3rd; Sub-Lieutenant Collett, Mersey Division, 4th.

**INTER-PORT BOXING.**—Was held at the Stadium Club on 20th March, resulting in the East Scottish Division winning the cup.

### DOMINION NAVIES

**AUSTRALIAN SUBMARINE LAUNCHED.**—The first of the two submarines building by Messrs. Vickers, Ltd., for the Royal Australian Navy was launched on 29th June at Barrow-in-Furness, and named the "Oxley," after one of the early Surveyors-General of New South Wales, who was also a noted explorer. The second submarine will be named the "Otway," after Cape Otway, in Victoria, which takes its name from Captain Albany Otway, R.N., President of the Transport Board in the early 19th century.

**NEW ZEALAND AND THE NAVY.**—In his speech at the opening of Parliament, on 17th June, the Governor-General of New Zealand, referring to the arrival of the second cruiser, the "Diomedee," as a part of the New Zealand Division, said : " While the addition of the cruiser means an increase in expenditure on naval defence, my advisers are of opinion that still more must be done before New Zealand can claim to be bearing her fair share of Imperial naval defence."

**FLEET TUG TRANSFERRED.**—The sea-going tug, "St. Boniface," one of the "Saint" class, built for the Admiralty during the war, was handed over at Rosyth on 15th April to the agents of the New Zealand Government, and has been re-named the "Toia."

**VOYAGE OF THE "WAKAKURA."**—The mine-sweeping trawler "Wakakura" left Portland on 14th June for St. Vincent, Cape Verde, on her long voyage to New Zealand. Her programme was: St. Vincent, 28th June/2nd July; Trinidad, 15th/24th July; Colon, 31st July/4th August; Balboa, 5th August; Salina Cruz, 12th/16th August; San Diego, 27th/31st August; Honolulu, 14th/21st September; Pago Pago, 8th/11th October; Fiji, 14th/18th October; Auckland, 25th October.

## FOREIGN NAVIES

### DENMARK

**SHIPS' CRUISES.**—The cruisers "Gejser" and "Hejmdal" have been visiting ports in the United Kingdom in the course of their summer cruises. The "Hejmdal" was at Southampton for two days at the end of May, at Gibraltar on 26th June, and at Plymouth for two days in the first week of July. The "Gejser" was expected at Leith for a few days early in August. She is used as a training ship for boys, and the "Hejmdal" for midshipmen.

### FRANCE

**VISIT TO MALTA.**—Vice-Admiral Violette, the French Commander-in-Chief in the Mediterranean, left Toulon on 14th April for a cruise, in the course of which he visited Malta from 27th April to 1st May. The Vice-Admiral had with him the battleships "Bretagne" and "Jean Bart," the flotilla leader "Tigre," and the destroyers "Bambara," "Mangini" and "Bouclier." The visiting squadron was received with the customary honours, and practically the entire British Mediterranean Fleet, under Admiral Sir Roger Keyes, was at Malta during its stay.

**UNIFORM CHANGE.**—It was announced in June that a new mess uniform had been ordered for officers of the French Navy. Since the end of the war, they have had to be content with service dress. The new uniform consists of an open jacket, white waistcoat, and trousers with a gold stripe.

**NEW TRAINING CRUISER.**—The training cruiser "Jeanne d'Arc," whose six funnels in two widely spaced groups have made her conspicuous all over the world, is condemned, says the *Shipbuilding and Shipping Record*, and is to be replaced as a cadet training ship by a new ship specially designed for the duty. The "Jeanne d'Arc" was launched in 1899. She visited Liverpool for a week at the end of June last.

**SUBMARINE CRUISES.**—The new submarine "Requin," of 1,129 tons on the surface and 1,415 submerged, and understood to be the largest ever built in France, is now completed, and was ordered to leave Cherbourg on 7th June, in company with the "Rene Audry" (ex-U.119) for a month's exercise cruise, visiting Brest, Dakar, Las Palmas and other places, before joining the flag of Vice-Admiral Violette.



**GERMANY**

**CHANNEL CRUISE.**—A squadron of six vessels passed down the English Channel at the end of May, and returned three weeks later, passing close to the South Goodwin Lightship in a north-easterly direction on 17th June. The squadron consisted of the battleships "Schleswig-Holstein" (flagship), "Hannover," "Hessen" and "Elsass," and the cruisers "Nympe" and "Amazone," all twenty years old or more.

**GREECE**

**BRITISH MISSION RETURNS.**—The British Naval Mission to Greece under Rear-Admiral C. S. Townsend, C.B., left Athens on 22nd May, on the termination of their contract on the ground of economy. The Admiral and five officers arrived in Greece in April, 1925, and were placed at the disposal of the Greek Government for two years, beginning from the date on which they commenced their duties, viz., 15th April, 1925. In a letter to *The Times* on 18th June, referring to certain comments on the manner in which the Mission had been terminated, and its members allowed to leave without being rendered the usual courtesies, M. D. Caclamanos, writing from the Greek Legation in London, stated that the decision was arrived at very reluctantly and actuated only by reasons of economy. The Greek Government, he added, instructed him "to acquaint the British Government with their high appreciation of the work accomplished by the gallant Admiral and the members of the British Naval Mission in Greece," and they decided to confer upon Admiral Townsend and the members of the Mission the highest Greek distinction corresponding with their rank.

**HOLLAND**

**SUBMARINE'S LONG CRUISE.**—The Dutch submarine "K.XIII" left Amsterdam on 27th May, on a seven months' cruise to the Dutch East Indies, believed to be the longest trip ever undertaken by an unescorted submarine. The vessel was to go to the Azores, Las Palmas, Curacoa, Panama Canal, San Francisco, Honolulu, Guam, Yap, Manila and Sourabaya, being due at the last-named on 12th December. Oceanographical observations will be taken during the cruise. The new "K" submarines (Kolonien) have been built for the Dutch East Indian Marine.

**ITALY**

**VISIT TO MALTA.**—On 20th April, an Italian squadron visited Malta, composed of the battleships "Conte di Cavour" and "Giulio Cesare," the cruiser "Taranto," the flotilla leaders "C. Mirabello," "Pantera," "Leone" and "Tigere," and four destroyers. The visit took place a week before that of the French ships already mentioned, and both visits recalled the traditional friendly relations between the three navies in the war. Admiral Sir Roger Keyes, who received the visitors at Malta was, at one time, Naval Attaché in Rome. The squadron was commanded by Vice-Admiral Diego Simonetti.

**JAPAN**

**PRINCE CHICHIBU'S VISITS.**—Prince Chichibu of Japan, in the course of his tour in England, visited Portsmouth and Plymouth in April, and was shown over

the dockyards and naval establishments. His Imperial Highness was the guest of the Commanders-in-Chief, Admiral Sir Sydney Fremantle and Admiral Sir Richard Phillimore.

**NEW NAVAL PROGRAMME.**—Cabling on 1st June, the Tokio correspondent of *The Times* wrote: The Ministry of Marine is said to have abandoned its intention of installing 15-centimetre (5.9") guns in the new cruisers and to have decided to fit 12-centimetre (4.7") guns instead, thus saving £200,000. The Ministry proposes that thirty-three additional vessels should be laid down with a view to their completion in 1931. They will include four 10,000-ton cruisers, sixteen 1,700-ton destroyers, five 2,000-ton submarines, five 400-ton gunboats, one oil carrier, and one minelayer. Two of the cruisers will be laid down in 1927 and two in 1928.

**AVIATION PROGRESS.**—According to the Japanese newspapers, the Ministry of Marine is to ask for 3,000,000 yen (£300,000) for the installation of aeroplane launching platforms and apparatus in battleships. In view of the Exchequer's refusal last year to sanction expenditure to cover the cost of maintaining the air-craft carrier "Akagi," it is considered that approval for the new appropriation may not be given.

## UNITED STATES

**CRUISER CONTRACT.**—The contract for the construction of scout-cruiser No. 25, which will be named the "Salt Lake City," was awarded on 4th June to the firm of William Cramp & Sons, Philadelphia. This is one of the first two of eight such vessels authorised by Congress on 18th December, 1924, the other vessel being built in a public yard. The displacement will be 10,000 tons (11,568 normal), and the designed speed 32½ knots.

**MODERNISING BATTLESHIPS.**—The proposed alterations to the battleships "New York" and "Texas" the first 14" gun battleships, completed in 1914, include a new fire-control system, necessitating the replacement of the lattice type foremast by a tripod mast; conversion from coal to oil fuel; additional protective deck plating; installation of a powder impulse aeroplane catapult on No. 3 turret; bulges for under-water protection; and removal of the mainmast and provision of a new low tower for secondary fire-control. The earlier battleships "Arkansas" and "Wyoming" (1912) and "Florida" and "Utah" (1911), will also have new tripod masts, and cruising turbines will be installed in them.

**NEW EUROPEAN FLAGSHIP.**—By an order of 20th April, the cruiser "Pittsburgh" is to be relieved as flagship of Vice-Admiral Roger Welles, commanding the Naval Forces in Europe, by the "Memphis," the latest to be completed of the ten post-war cruisers of the "Omaha" type. The "Memphis" is commanded by Captain Henry Lackey. On relief, the "Pittsburgh" will go to the Navy Yard, Norfolk, for an overhaul, and will afterwards replace the "Huron" as flagship on the Asiatic Station, the latter vessel being paid off.

**TENURE OF THE FLEET COMMAND.**—In reference to the rumoured relinquishment in the autumn, by Admiral S. S. Robison, of his present duty as Commander-in-Chief of the United States Fleet, after one year as such, the *Army and Navy Journal*, Washington, says that behind this is a contemplated change of departmental policy. Under the existing order this coveted position is held for two years, and it has become a tacit understanding that the commander-in-chief of the battle fleet automatically "steps up" to fill the vacancy. Thus for four years an officer

is either in command of all the forces afloat or second-in-command. In influential quarters in the Navy the contention is being advanced, says the "Journal," that this period is too long and restricts too severely the number of officers in the upper grade who can hope to reach this ultimate goal of every officer's career. The argument is being advanced that in time of war a number of the higher commands entail responsibilities greater than those of the commander-in-chief in peace times, and that as many officers as possible, having demonstrated their fitness, should be given the opportunity to command the fleet, as the experience thus gained would fit them for the auxiliary command in a war-time enlarged Navy. There are indications that this opinion will prevail and that Admiral Robison's action will open the way for a change of policy to make the tour of duty of the Commander-in-Chief one year instead of two as at present.

COMBINED EXERCISES IN 1927.—The *Army and Navy Register*, of Washington, says, official plans by the Navy Department for the Navy's participation in Army and Navy joint manœuvres off Narragansett Bay, Rhode Island, from 21st to 30th May, have been made public in the Department's schedule of employment of the United States Fleet from 1st January to 30th June, 1927.

Following a concentration of practically the entire fleet at Guantanamo Bay, Cuba, on 15th March, the fleet will sail for New York on 23rd April, where it will remain until 16th May before commencing manœuvres off Newport. Preliminary plans have been considered by the Navy Department for these manœuvres, but a definite programme has been withheld until fuel appropriations were made available for the purpose of bringing the Battle Fleet and the Fleet Base Force from the Pacific to the Atlantic Ocean to join the Scouting Fleet and Control Force.

Final plans for participation in the grand joint manœuvres of the United States Fleet with a large Army base force, similar to the 1925 war problem at the Hawaiian Islands, have not been finally decided upon, but it was announced at the Navy Department that joint manœuvres with the local army corps area would probably be held in the absence of a larger participating force.

### THE OLD "IMPLACABLE"

The following letter, signed by Admiral of the Fleet, Earl Beatty, appeared in the Press on 21st July last:—

"As the time for which the Trafalgar ship 'Implacable' can be retained in dock at Devonport is drawing to a close I feel I ought to let you know the result of my appeals for funds to save the old vessel, which you were good enough to publish on 20th October and 30th November last, and also how the work has progressed.

"The amount subscribed up to date is just over £19,000, which is about £6,000 short of the £25,000 for which I originally appealed.

"For this sum, it has been found possible to carry out the most urgent repairs, and when the ship returns to Falmouth in August, she will be thoroughly sound under-water, and the weather-works will be in good order up to the height of the upper deck. In fact subscribers can literally congratulate themselves on having saved the 'Implacable.'

"It may be recalled, however, that the object was not merely to preserve a fine historic relic, but also the very practical one of using the vessel with all her

splendid traditions as the setting for a scheme of great national and even Imperial importance.

"When she has been properly fitted out, boys of all kinds will be able to live on board during their holidays and so acquire the rudiments of seamanship and an understanding of the sailor's calling. Under the supervision of Mr. Wheatly Cobb, who for many years has carried on the training of boys in a smaller ship, the frigate 'Foudroyant,' the rising generation will thus be imbued with the glorious traditions of Nelson's days and that sea-sense which is the greatest and proudest heritage of our race.

"I beg to thank all those who have already laid the foundations of this noble project by enabling the 'Implacable' to be made so sound that she will be serviceable for very many years to come. It remains for me to ask for additional patriotic subscribers to complete the amount required for outstanding work and to help Mr. Cobb to get the ship ready for holiday boys next year.

"Cheques, as heretofore, will be gratefully acknowledged by the Hon. Treasurer, Sir Vincent Baddeley, K.C.B., and should be sent to him, at the Midland Bank, Westminster Branch, Wesleyan Hall, S.W.1."

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## ARMY NOTES

### HOME

#### REGULAR FORCES.

APPOINTMENTS AND PROMOTIONS.—The principal changes that have occurred during the past quarter are the following :—

General the Lord Horne, G.C.B., K.C.M.G., retired on retired pay. As a result Lieut.-General Sir P. W. Chetwode, Bart., K.C.B., K.C.M.G., D.S.O., was promoted General; while Major-General Sir E. P. Strickland, K.C.B., K.B.E., C.M.G., D.S.O., was advanced to the rank of Lieutenant-General. Colonels Sir Matthew Fell, A. G. Stevenson, H. H. S. Knox, W. H. Bartholomew, C. Bonham-Carter have been promoted Major-Generals.

Major-General Sir Matthew H. G. Fell, K.C.B., C.M.G., has been appointed Director-General, Army Medical Services, in succession to the late Lieut.-General Sir William B. Leishman, K.C.B., K.C.M.G.

Major-General H. H. S. Knox, C.B., D.S.O., A.D.C., has succeeded, as Director of Military Training at the War Office, Major-General the Hon. John Gathorne-Hardy, who proceeds to India to command the Poona District.

Major-General B. F. Burnett-Hitchcock, C.B., D.S.O., has been appointed to command the 55th (West Lancashire) Division in succession to Major-General H. D. De Prée, C.B., C.M.G., D.S.O., who proceeds to the appointment of Commandant, Royal Military Academy. This last-named appointment is being vacated by Major-General T. R. E. Charles, C.B., C.M.G., D.S.O., who has assumed the post of Director of Military Operations and Intelligence, War Office.

Major-General Sir W. E. Ironside, K.C.B., C.M.G., D.S.O., has been appointed to command the 2nd Division, in succession to Lieut.-General Sir E. P. Strickland, K.C.B., K.B.E., C.M.G., D.S.O., promoted.

Major-General N. J. G. Cameron, C.B., C.M.G., has taken up the command of the 49th West Riding Division, Territorial Army.

Major-General C. W. Gwynn, C.B., C.M.G., D.S.O., has taken up the appointment of Commandant, Royal Military Staff College, Camberley.

THE GENERAL STRIKE.—The Army was called upon to assist the Civil Power in the maintenance of law and order during the General Strike that took place throughout the first fortnight of May.

The emergency passed off without any resort being made to force; the troops went through this difficult period with the utmost good temper.

On the 7th May the following Army Order was issued :—

Aid of the Civil Power.—All ranks of the Armed Forces of the Crown are hereby notified that any action which they may find it necessary to take in an honest endeavour to aid the Civil Power will receive, both now and afterwards, the full support of His Majesty's Government.

On the collapse of the General Strike the troops returned to their normal avocation leaving no trace of ill feeling behind them as their share in maintaining order and preserving the food supplies of the Nation.



**AIR DEFENCE FORMATIONS: INSPECTION, TRAINING AND SUPERVISION.**—It has been decided to transfer the responsibility for the inspection of Regular Anti-Aircraft Units from the General Officer Commanding Territorial Army Air Defence Formations to the Inspector of Royal Artillery.

The Army Order which announces this change, states that the General Officer Commanding Territorial Army Air Defence Formations, will now, under the General Officers Commanding-in-Chief The Commands concerned and the General Officer Commanding London District, be responsible for the Training and Supervision of all Territorial Army Air Defence Formations and Units. To enable him to carry out these duties, one General Staff Officer, grade 2, one Chief Engineer, and one Chief Signal Officer have been temporarily appointed to his headquarters which will be established at Uxbridge.

**NEW RATES OF PAY FOR ROYAL ARMY MEDICAL CORPS, DENTAL CORPS AND VETERINARY CORPS.**—A Royal Warrant makes provision, as from 1st July next, for certain increases in the rates of pay and retiring gratuities, and for an improvement of the conditions of promotion and retirement of officers of the Royal Army Medical Corps, the Army Dental Corps, and the Royal Army Veterinary Corps. The amended daily rates of pay are given in detail in the new Warrant.

**CHANGES IN DESIGNATION.**—His Majesty the King has been graciously pleased to approve of the Sanitary Company and Sanitary Sections of the Royal Army Medical Corps, Regular Army and Territorial Army, being in future designated Hygiene Companies and Field Hygiene Sections respectively.

(2) The designation of the units of the Royal Ordnance Corps (Territorial Army) has been changed by the omission of the word "Divisional" before the title of "Ordnance Company, Royal Army Ordnance Corps (T.A.)."

**ARMY WIDOWS' PENSIONS.**—An amending Article to the Pay Warrant lays down that the conditions under which the widow of a deceased soldier may be granted a pension are that she was legally married to the soldier while he was serving with the Colours and before the receipt of the wound or injury, or before the first removal of the soldier from duty on account of the disease, from which he died.

**ARMY DRESS.**—New regulations for Army dress provide that sashes may be worn by lance-sergeants of infantry other than of rifle regiments, subject to no expense to the public being incurred. Drab gaiters, authorized for men of Highland and Scottish regiments, Territorial Army, for wear on ceremonial parades and for walking out, may, at the discretion of Commanding Officers, be whitened, also provided no public expense is incurred.

**SUPPLEMENTARY RESERVE PRECEDENCE.**—The King's Regulations have been amended by the provision that the Supplementary Reserve in matters of precedence will rank as part of the Territorial Army and its units as junior to Territorial Army units of the same arm or branch of the Service.

**TRAINING DURING 1926-27.**—Officers of the Militia.—During the financial year, 1926, there will be no training, either compulsory or voluntary, for officers of the Militia holding commissions on 31st May, 1926.

#### TERRITORIAL ARMY.

**DISBANDMENT OF FIELD PARK COMPANIES, ROYAL ENGINEERS, TERRITORIAL ARMY.**—His Majesty the King has approved, with great regret, of the disbandment

of the following units of the Royal Engineers, Territorial Army, with effect from 1st May, 1926:—203rd (East Lancashire), 207th (Wessex), 211th (Sussex), 215th (North Midland), 219th (1st London), 223rd (2nd London), 227th (South Midland), 231st (West Riding), 235th (Northumbrian), 239th (Highland: City of Aberdeen), 243rd (Lowland), 247th (Welsh), 251st (East Anglian), 255th (West Lancashire) Field Park Companies.

**OFFICERS TRAINING CORPS: THE TRAINING OF JUNIOR CONTINGENTS.**—New decisions on the organization, administration and training of the Officers Training Corps provide that while the training of the Junior Division will be under the general direction of the Chief of the Imperial General Staff, responsibility for supervising the standard and methods of training of individual contingents will rest with General Officers Commanding-in-Chief. Assistance in the training of contingents will be given by officers of suitable rank from a regular depot or, when this is not possible, from some selected formation or unit. Assistance at field operations, practical instruction to officers in carrying out simple tactical exercises, the provision of local demonstrations to bring out important lessons, and assistance in the coaching of candidates for Certificate "A," are among the principal matters in which the co-operation of these officers will normally be most useful. They will not, however, interfere with internal organization or administration.

### THE DOMINION FORCES

**THE KING'S MEDAL.**—The medal, with clasp "1926," for the champion shot of the military forces of the Dominion of New Zealand has been won by Staff-Sergeant J. S. Thomson, New Zealand Permanent Staff.

The medal, with clasp "1925" for the champion shot of the military forces in India has been won by Jemadar Kalbi Raza, 4th Hazara Pioneers.

**ALLIANCES.**—His Majesty the King has approved of the following regimental alliances:—

*Non-Permanent Active Militia of Canada.*—Le Régiment de Québec to the East Yorkshire Regiment; 1st British Columbia Regiment (Duke of Connaught's Own) to The Rifle Brigade (Prince Consort's Own); The Brockville Rifles to The King's Royal Rifle Corps.

*Union of South Africa Active Citizen Force.*—The 5th Mounted Rifles (Imperial Light Horse) to the 4th Queen's Own Hussars.

### UNION OF SOUTH AFRICA

**DIVISION OF MILITARY DISTRICTS.**—His Excellency the Governor-General-in-Council has been pleased to make the following amendments to the Regulations for the S.A. Permanent Force.

The Union is divided into six military districts, as follows:—

**No. 1 Military District** (Headquarters at Capetown).—The Western Province of the Cape, with boundaries including the Magisterial Districts of George, Oudtshoorn, Prince Albert, Beaufort West, Victoria West, Prieska, Kenhardt, Namaqualand, Port Nolloth, Gordonia.

**No. 2 Military District** (Headquarters at East London).—The Eastern Province of the Cape, with boundaries including the Magisterial Districts of Knysna,

Uniondale, Willowmore, Aberdeen, Murraysburg, Richmond, Britstown, Philipstown, Colesberg, Albert, Aliwal North, Herschel, Barkly East, Maclear, Tsolo, Qumbu, Lebode, Port St. Johns.

*No. 3 Military District* (Headquarters at Pietermaritzburg).—The Province of Natal and those portions of the Northern Transkeian Territories with boundaries including the Magisterial Districts of Mount Fletcher, Mount Frere, Tabankulu, Lusikisiki.

*No. 4 Military District* (Headquarters at Johannesburg).—Comprising the following municipal areas in the Province of Transvaal: Krugersdorp, Roodepoort-Maraisburg, Johannesburg, Germiston and Boksburg, together with the whole of the southern portion of the Magisterial District of Boksburg and the Magisterial Districts of Benoni and Springs.

*No. 5 Military District* (Headquarters at Pretoria).—The Transvaal less No. 4 Military District.

*No. 6 Military District* (Headquarters at Bloemfontein).—The Orange Free State, together with the Magisterial District of Hopetown, in the Cape Province, and that portion of the Cape Province north of the Orange River not included in Districts Nos. 1 and 2.

These amendments have effect as from the 1st April, 1926.

### AUSTRALIAN COMMONWEALTH

**AUSTRALIAN FORCES.**—Lieut.-General Sir Harry Chauvel, Inspector-General of the Australian Military Forces and Chief of the General Staff, declares, in a report presented to Parliament, that it is impossible to place the Australian Army in a reasonable state of preparedness with the funds available.

The number of applicants seeking admission to the Royal Military College, Duntroon, he continues, is disappointing for a truly progressive citizen force; but no training policy is practicable under the present conditions. The amount appropriated for the maintenance of military buildings and stores is quite inadequate, the present policy being to maintain the nucleus of a divisional organization, train its leaders and procure arms, equipment, ammunition, and other necessary stores. The fact that some time would be necessary, after the outbreak of a war, to complete the training of the rank and file, constitutes, in the Inspector-General's opinion, a considerable risk, which cannot be eliminated on account of restricted financial votes. A sum of £1,563,446 was expended on military preparations last year, compared with £2,356,899 in 1913-14.

With a view to securing an effective state of preparedness, Sir Harry Chauvel recommends:—

- (1) Expansion of the nucleus organization to contain the requisite non-divisional fighting troops not yet raised, such as further medium artillery, anti-aircraft artillery, tanks and other arms, and also the administrative units necessary for the maintenance of an army in the field;
- (2) A more adequate basis for the training of younger officers and non-commissioned officers;
- (3) Provision of opportunities for officers to exercise their own commands in the annual training of their units, with a view to acquiring the vital habit of command;

- (4) Better provision for the supply of arms, ammunition, ordnance and equipment ;
- (5) Special financial provision for secure naval bases, in order to enable the British warships, on which Australia frankly depends for protection against invasion, to operate in Australian waters ;
- (6) Immediate strengthening of armaments in coastal forts.

The report declares that owing to lack of money the maintenance of the existing stores and equipment in a serviceable condition is quite beyond the capacity of the small permanent ordnance staffs, and points out that the Citizen Forces are 28 per cent. under establishment as regards officers, that this is 6 per cent. worse than last year, and that enthusiasm is waning.

The following reply has been made to the above report by Mr. Bruce, the Commonwealth Prime Minister, who fears that this statement may have created a bad impression abroad :—

The Government's policy, while aiming at a balanced programme, is based primarily on the Navy. In this direction Australia has spent more per head than all the other Dominions together. Australia recognizes that her defence consists primarily of insuring the command of the sea through co-operation with the British Navy. Naval work was not within the scope of Sir Harry Chauvel's report.

Australia to-day is spending on defence more than ever before. The Government has embarked on a naval construction policy entailing the expenditure of £7,000,000 by 1928-29. She is also devoting £500,000 annually to projects for the manufacture of munitions locally, is subsidizing civil aviation, and is spending millions on roads, railways, wireless and harbour improvements, partly with a view to their value for defence. The Government is doing considerably more than any other Dominion to place its defences on a proper basis.—

(*The Times*, 17th and 20th July, 1926).

**OVERSEA SETTLEMENT FOR EX-SOLDIERS.**—The Government of Western Australia has agreed to accept for group settlement in Western Australia a party of married soldiers who have undergone a course of training in Oversea Settlement at the Army Vocational Training Centre, Catterick. This party, the "3rd Army Group," with their families will sail for Australia early in September next. Vacancies also exist for suitable single men who are desirous of settlement in the Oversea Dominions. Applications of married men for inclusion in this group and of single men for settlement in the Oversea Dominions should be forwarded through the usual channels to the Under-Secretary of State (S.D.8), The War Office, at the earliest possible date. Men with previous experience in farming or the management of heavy horses are especially suitable. Command officers willing arrange for the conditions of settlement, particulars of which may be obtained direct from the Commandant, Army Vocational Training Centre, Catterick Camp, Yorks.

## FOREIGN

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### FRANCE

**THE RE-ORGANIZATION OF THE FRENCH ARMY AND THE PROPOSED REDUCTION OF THE PERIOD OF MILITARY TRAINING.**—(1) In an official communiqué recently issued by M. Painlevé, the War Minister stated that :—

- (a) In future the Home Service and Overseas forces will be quite distinct ;
- (b) The Colonial Army will number 277,000, of which 97,000 will be white troops ;
- (c) White units attached to Provisional Active Service organizations and the White Cadres forming part of all Native regiments will be entirely composed of re-engaged men or volunteers ;
- (d) The existing 32 divisions are to be reduced to 20 ;
- (e) The present system of extra-regimental employment by which recruits with six months' service are taken for police, depot, office, garrison and domestic duties will cease, the recruits being replaced by 14,000 specially engaged civilians (personnel civil), and 15,000 specially engaged men (agents militaires) for work in the proposed "Centres de Mobilization."
- (f) In addition to the last mentioned 29,000 civilians, it is hoped to obtain another 29,000 re-engaged non-commissioned officers and men to strengthen the regimental cadres and corps of instructors, bringing their total to 105,000 ;
- (g) It is hoped that it will be possible to call up the whole of the recruits of a battalion together, and to keep them together throughout their period of service under the same officers and non-commissioned officers, both active and reserve, whom they had known and by whom they had been taught during their first period of training ;
- (h) It is intended to return to the 21 years of age rule for recruits, chiefly in the interest of corps in which a technical training is required.

The 1929 class, to be called up in 1930, will be the first to do the twelve months' training at the age of 21, and will be called to the Colours one-third at a time, instead of half at a time as at present.

- (i) The re-organization scheme will cost 522 million francs, of which 255 millions will be obtained from the proposed shortening by six months of the present period of training, and 65 millions from the reduction of establishments and other economies to be carried out in the cavalry and artillery services ;
- (j) The Army Budget will therefore have to be increased by over 200 million francs to meet the increased expenses due to the re-organization and reduced period of service ;
- (k) The "Centres de Mobilization" already mentioned will actually be formed and will be served by the 15,000 "agents militaires."

2. From Monsieur Painlevé's statement, it will be seen that the new scheme depends entirely on the recruiting of a sufficient number of re-engaged N.C.O's. and men and civil employees, but, unless the pay and conditions of service are made more attractive and therefore more costly, there is little prospect of the required numbers (58,000) being obtained.

The question of increasing the gendarmerie by 60,000 has apparently been dropped for the moment, although the recruits at present employed on police and maintenance of public order will eventually have to be replaced by gendarmerie.

During the transition period, 1926-1929, a sixteen months period of training will be adopted, and the age of each contingent of recruits will be gradually increased till the standard of 21 years is attained.



NOTES ON THE NEW SCALE OF PAY AND ALLOWANCES IN THE FRENCH ARMY.—In spite of the fact that the pay and allowances for all ranks have been raised, in some cases by as much as 25 per cent., the depreciated value of the franc and the greatly increased cost of living have more than neutralized the benefit which the French Army hoped to obtain from its new scale of pay.

The purchasing power of the franc is less than one-fifth of what it was in 1914, and an officer's living expenses are at least six times higher than twelve years ago; even since the decree establishing the new rates of pay was promulgated in January of this year, the cost of living in Paris has risen 31 points.

To meet this situation the pay and allowances of 2nd Lieutenant have been increased by 360 francs, Lieutenant by 2,400 francs, Captain by 3,100 francs, Major by 1,700 francs, Lieut.-Colonel by 3,800 francs, Colonel by 4,200 francs, Brig.-General by 5,000 francs, Divisional-General by 5,600 francs per annum.

Certain allowances, including allowances for children, have been increased proportionately; but others have been "consolidated" with little advantage to the individual.

A married captain, stationed in Paris, with fifteen years' service and two children will thus, under the most favourable circumstances, draw no more than about 1,730 francs a month, out of which he has to board, feed, dress and educate his family. If ordered away from his home on duty, little or no subsistence allowance is granted, a Divisional General drawing only 20 francs for every 24 hours, and a junior officer less than half this amount.

## GERMANY

CHEMICAL WEAPONS IN THE WAR OF THE FUTURE.—An interesting article under this heading is published in "Wissen und Wehr" (3rd Vol., 1926), by Dr. Rudolf Hanslian, part author of the well-known book "Der Chemische Krieg."

The article is divided into five sections, namely:—(i) Introduction; (ii) Chemical Weapons; (iii) Methods of Employment of Gas; (iv) Anti-gas Methods; (v) Relative value of the Chemical as compared with other Weapons.

The author takes as the basis of his discussion the thesis that, in the next war, the employment of gas will not be limited in any way in spite of international conventions such as the Washington Agreement. All the Great Powers with the exception of disarmed Germany are, he says, conducting experiments on a scale to justify this assumption.

Post-War research and experiments throughout the world have shown that, of more than 1,000 new gases which have been tested none have so far proved to be essentially more efficacious than those employed in the late war. The much-quoted American "Lewisite" is really a German war production, which has, however, never been employed. Hanslian is of the opinion that, in the next war, the same general types of gas will be employed as were used during the late war (i.e., mustard, lachrymatory and sneezing), although their effects may possibly have been intensified by interim research.

Unless a revolutionary improvement in phosgene is recorded, purely lethal gases will probably be abandoned as an obsolete weapon, as a charcoal filter is sufficient protection against these.

The gases of the future will be primarily directed against the eyes and skin of the enemy, and only secondarily against the respiratory organs.

As regards methods of employment of gas, the writer maintains that projection from containers or propulsion of gas cylinders are obsolete methods, and could only be adopted in a future conflict were it to develop into regular trench warfare. He condemns these methods as clumsy and dangerous.

He then discusses the respective merits of aircraft and artillery as gas and smoke "projectors." After a detailed discussion he summarises the chief advantages and disadvantages attaching to the two arms thus :—

## ADVANTAGES.

*Aircraft.*

- (i) Long range (includes enemy civil population).
- (ii) Possibility of carrying thin metal or glass containers (bombs) and thus increasing relative weight of gas to container.
- (iii) Feasibility of sprinkling large areas with liquid from a container in the aeroplane.
- (iv) Efficiency in laying smoke screens.

*Artillery.*

- (i) Variability of firing position for each target.
- (ii) Possibility of concealment from enemy retaliation.
- (iii) The gun can fire more than ten times the quantity of gas, over a given period, than the aeroplane.

## \* DISADVANTAGES.

*Aircraft.*

- (i) Only one "firing" position for each target (i.e., immediately above) and consequent impossibility of concealment.
- (ii) Extreme vulnerability of the bombing machine to hostile air attack.
- (iii) Necessity of low flying to achieve good "sprinkling" effect and consequent vulnerability from the ground.

*Artillery.*

- (i) Excessive weight of projectile compared to amount of gas contained in it.
- (ii) Short range.
- (iii) No accurate sprinkling effect.

The writer comes to the conclusion that under present circumstances the aeroplane must be considered to be the most effective gas "projector," and that it so far represents the last word in methods of gas attack.

Hanslian fully subscribes to the dictum that gas is a humane weapon, in view of the fact that protective measures can easily be adopted.

Both the soldier and the civilian will in the next war demand a complete protective effect from their anti-gas apparatus. The civilian will, however, be content with complete protection alone, whereas the soldier will also demand that his protective apparatus should permit him to remain in action. In the late war the soldier's demand was almost completely fulfilled, although prolonged fighting in gas masks certainly placed a considerable strain on him. The next war will, however, require not only the protection of face and respiratory organs, but also of the entire surface of the body. American experiments with "Impregnite" have shown that this protection is possible, and it is only a matter of time before the soldier can be entirely clothed in gas-proof material which will afford complete protection over long periods. The old problem of "gas *versus* mask" is rapidly becoming "gas *versus* gas-suit."

The first gas attack of the next war will probably be launched against a gas-proof enemy, who will be doubtless incommoded but not put out of action by it.

In conclusion the writer discusses the relative value of gas as compared with other weapons. The greatest weakness of gas is its dependence on the weather. Rain and snow neutralise the effect of mustard gases, and a light wind makes any effective concentration of other gases impossible. Although himself a leading gas expert, he admits that the time has not yet come for gas to displace high explosive. The two substances are supplementary. Gas is not therefore to be regarded as the chief weapon in a future war, but will nevertheless undoubtedly be one of the chief weapons.

### NORWAY

#### ARMY ESTIMATES FOR 1926-7.

1. GENERAL.—The following table shows the military expenditure proposed for the financial year 1926-7, compared with the grants for 1925-6. The present rate of exchange may be taken as Kr.22=£1 sterling.

|                                   | Proposed<br>1926-7.<br>Kroner | Granted<br>1925-26.<br>Kroner | Reductions or<br>Increases.<br>Kroner |
|-----------------------------------|-------------------------------|-------------------------------|---------------------------------------|
| (A) Army .. .. .                  | 32,190,800                    | 34,232,900                    | 2,042,100                             |
| (B) Grants to rifle clubs, etc. . | 364,000                       | 350,000                       | 10,000                                |

Consequently the total decrease in expenditure for the year would be 2,032,100 kroner. This marked decrease in expenditure is proposed for the following reasons: (i) The present difficult financial circumstances; (ii) The proposed transition to a new military system; (iii) The fact that international relations have undergone changes which it must be assumed will result in increased security of Norway.

2. PROPOSED REDUCTION OF STRENGTH.—It has been assumed that the forces will be reduced and it has therefore been considered advisable that the strength of the recruit schools should be reduced by about one third. As in recent years, it is again proposed to abandon regimental training for the line regiments, but it is planned that the infantry and fortress artillery shall have twelve days company training, partly in preparation for a new system of training, under which the men will serve for a longer period during their first year and be called out less frequently later on. Amongst other reductions may be mentioned three companies of fortress engineers and one garrison division. It is also proposed to demolish certain fortresses.

3. REDUCTIONS ALREADY EFFECTED.—During the years 1921-5, 83 permanent commissioned ranks were suppressed, 14 appointments for pensioned officers, 164 permanent non-commissioned ranks, 6 corporals and 2 military police. Reductions have also been made in the personnel of the reconstruction offices of the field artillery and fortress artillery.

Amongst other savings specified in the estimates are the following:—

Kr. 16,000 on the General Staff.

33,000 on the divisional staffs by the abolition of certain ranks.

43,400 by the abolition of the regimental staffs of the infantry, cavalry, field artillery and engineers and also offices of the Commander of the Oscarsborg and Berg fortresses.

75,800 by the inclusion of eight machine gun companies in the various regiments.

The Department proposes to abolish the Divisional Bands. It is estimated that this will result in the saving of Kr. 230,000.

4. ABOLITION OF FORTRESSES.—The following proposals are made with regard to fortresses :—

- (i) The Garrison Division to be abolished at Scarpsborg.
- (ii) The strength of the Garrison Division at the Fossum fortresses to be reduced from 60 to 30 men.
- (iii) The Kongsvinger fortresses to be demolished.
- (iv) Stjor and Verdal fortresses to be demolished.
- (v) The Narvik detachment to be disbanded.
- (vi) The three companies of fortress engineers to be disbanded.

It is estimated that this will save 190,000 Kroner annually.

5. MILITARY TRAINING.—The proposals are :—

Duration of training at the recruit schools to be the minimum laid down in paragraph 49 of the Conscription Act.

Only two-thirds of the men on the rolls to be called out.

Conscripts will be allowed to ballot for exemption from service in accordance with paragraph 55 of the Conscription Act. (*Note.*—This system was in vogue before the war, but has not been practised for many years.)

Recruits in the infantry, artillery and fortress artillery will have twelve days' company training.

Twenty-four days' repetition course for the air service.

Regimental training and the usual training for army service recruits to be abandoned.

6. In the discussion in the Storting on the Estimates the Minister of Defence declared that the economies proposed were the utmost that he was able to recommend. Already the savings that were to be effected must be at the cost of military training. He also stated that the Military Committee, which had been appointed to examine and report on the estimates, had been unable to agree to the proposal of the Radicals to exempt one-third of the recruits from service. The Committee suggested instead that one-third should be called up for eighteen days only. This period, although admittedly very short, was not worthless because the men with eighteen days' training would constitute a reserve corps, which could be further trained if necessary. The standard period of recruit training had been maintained at the minimum—viz., forty-eight days for the infantry. Regimental training was still to be held in abeyance, as had been done for some years now.

A more severe medical examination of recruits had already been instituted ; it was not possible to take any further steps in this direction.

The Minister also mentioned his proposal to effect a saving of 302,000 Kroner per annum by exempting from service the unskilled members of the so-called auxiliary corps. These are men who are not quite fit for military training and who are employed in various kinds of manual work at the training grounds—e.g., carpentry, painting, etc.

## RUMANIA

NEEDS OF THE RUMANIAN ARMY.—The *Univers*, the leading daily paper and chief organ of the Nationalist Party in Rumania, publishes in its issue of 15th

April an article by C. Bacalbasa dealing with the present condition of the Rumanian Army. The author draws attention to the repeated complaints, which have been made during the *régime* of the Liberal Government, to the lack of equipment and supplies and paucity of training in the Army.

Among other items he comments particularly on the following :—

- (i) **TRAINING.**—Personnel of Cavalry Units do not receive sufficient training. This view is held by the Inspectorate of Cavalry and all senior cavalry commanders, and it is advocated that the period of embodiment of cavalry personnel should be increased by four months.

The infantry although embodied for two years, also lack training for a considerable portion of this period ; the troops are not in barracks at all, but are allowed to proceed on long periods of leave, thus saving the expense of their keep.

- (ii) **EQUIPMENT.**—There is a great deficiency of equipment throughout the Army, and, except for bodies of troops who are specially dressed for ceremonial parades, the clothing of soldiers seen on normal duties throughout the country is often in a disgracefully ragged condition.

- (iii) **SUPPLIES.**—The quantity of the supplies on which the troops have to subsist, and which is issued for maintenance of horses, is insufficient and the quality extremely bad. Increases made in the last two years have been insignificant.

- (iv) **PAY.**—The pay of both officers and other ranks is quite insufficient in view of the present cost of living. In addition, few privileges are granted to military personnel. For this reason a number of distinguished officers have resigned from the Army.

The author proceeds to examine the reasons which gave rise to these deficiencies in the Rumanian Army. After commenting on the fact that the Ministry of War is continually being requested for increased allotments for military purposes and that the repeated reply is that sufficient Army funds do not exist, it is stated that the main fault is one of excessive economy in military matters. While admitting the necessity for economy, and expressing his agreement with the ideal of total disarmament, M. Bacalbasa concludes by laying stress on the fact that Rumania is not at present in a position to allow her Army to be inferior in strength to that of her probable enemies, and urging that the maintenance of the Army in an efficient condition is of vital importance.

### SOVIET RUSSIA

**DISCIPLINE AND MORAL OF THE RED ARMY.**—In spite of the communistic outlook and bias that now prevails in Russia, it has been recognised that an Army cannot exist unless it possesses some sense of discipline. Nevertheless the attempt is being made to represent the discipline now being enforced in the Red Army as something quite different to that which is common to other Armies ; this is done by cloaking the essential facts of the case under catchwords such as " voluntary subordination." The fact remains that in matters of duty a severe discipline is now being enforced. Off duty, it is true, the behaviour of the rank and file with regard to their superiors is marked by no sense of restraint ; there is, for instance, no compulsory salute.



An important part of the training of the Red soldier consists of political education in the accepted tenets of Communism. A special organization, named the "Political Administration," has been set up in the Army for this purpose. The most important part of the machinery of this administration consists of "Political Commissaries," who are appointed to work side by side with every commander (right down to the status of company commander). These agents are only lacking when the commander concerned is a recognised member of the Communist Party and himself performs the duties of Political Commissary. These Commissaries, it should be noted, originally came from the Soldiers' Councils of the Revolution, and at that time shared the authority of the commander, together with the latter, who thus possessed the sole and temporary duty to issue orders in his capacity of technical specialist.

This state of affairs has been, on disciplinary grounds, more and more changed in favour of the sole powers of command being wielded by the nominal commander. At the present time the commander possesses full powers, both in military and administrative matters, while the Political Commissary has been reduced to the task of carrying out the political education of the men as well as attending to matters connected with their welfare and comfort. In spite of this change, the Political Commissary still figures as a go-between who can only prove noxious to the position and prestige of the commander and impede purely military interests.

It is extremely difficult for the exterior world to gain any correct insight into the results of this political education in the Soviet Army. It is a remarkable fact, however, that the political authorities of Soviet Russia should have found it possible to have aroused a distinct idea of Russian nationalism, not only in the Army but in the entire people. This end has been achieved with no little skill, and has unquestionably won over adherents to the Soviet Government from outside the Communist Party. As an instance of this state of feeling might be named the present tendency to drive all Jews from positions of command in the Army and to substitute pure Russians for them; to quote one example, the Russian Vorochilov was recently appointed War Commissary in the place of the Jew, Unschlicht, who, being the deputy of the late Frunse, should have succeeded his chief. (See V. Lobell's "Jahresberichte," XLIII Jahrgang, pp. 131-2.)

#### SWITZERLAND

FURRER LIGHT MACHINE GUN.—It is expected that this automatic rifle or light machine gun will be issued to the Swiss Army during the coming autumn. It is proposed to supply this gun at the rate of two guns per platoon in the infantry companies. The issue of the gun will probably bring about a re-organization of the infantry company, as it has not yet been decided whether the company will then be organized into three or four platoons. If, as at present, there are four platoons, it will mean that there will be eight Furrer guns per company; if three platoons only, there will be six guns with the company and two in reserve. Eight guns per cavalry squadron will also probably be issued; the twelve heavy machine guns per battalion will remain.

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## AIR NOTES

### ROYAL AIR FORCE

#### APPOINTMENTS.

The undermentioned appointments have been made :—

Air Vice-Marshal J. M. Steel, C.B., C.M.G., C.B.E., Air Officer Commanding, Wessex Bombing Area. 12th April, 1926.

Air Vice-Marshal H. R. M. Brooke-Popham, C.B., C.M.G., D.S.O., A.F.C., Air Officer Commanding, Fighting Area. 20th May, 1926.

Air Commodore D. Le G. Pitcher, C.M.G., C.B.E., D.S.O., Air Officer Commanding, No. 22 Group. 12th April, 1926.

Air Commodore C. L. N. Newall, C.M.G., C.B.E., A.M., Deputy Chief of Air Staff, Air Ministry. 12th April, 1926.

Air Commodore T. C. R. Higgins, C.M.G., Chief Staff Officer, Headquarters, Iraq Command. 24th April, 1926.

Air Commodore H. C. T. Dowding, C.M.G., Director of Training, Air Ministry. 27th May, 1926.

Air Commodore E. R. Ludlow-Hewitt, C.M.G., D.S.O., M.C., Commandant, Royal Air Force Staff College. 3rd May, 1926.

Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., Chief Staff Officer, Headquarters, Middle East. 19th June, 1926.

Group Captain P. B. Joubert de la Ferte, C.M.G., D.S.O., Air Staff Duties, Headquarters, Fighting Area. 20th May, 1926.

Group Captain W. F. MacNeece, C.B.E., D.S.O., D.F.C., Air Staff Duties, Department of D.C.A.S. 7th April, 1926.

Group Captain N. D. K. MacEwen, C.M.G., D.S.O., Deputy Director of Training, Air Ministry. 1st May, 1926. Vice Group Captain L. W. B. Rees, V.C., O.B.E., M.C., A.F.C., to Headquarters, Transjordan.

Group Captain Hon. J. D. Boyle, C.B.E., D.S.O., Air Staff Duties, Headquarters, Wessex Bombing Area. 12th April, 1926.

#### PERSONNEL.

**OBSERVER OFFICERS.**—It has been decided to abolish the special rank and title of "Observer Officer" for officers of the General Duties Branch who have not qualified as pilots. These officers will in future be styled Flying Officers.

**AIRMEN'S EFFECTS FUND.**—The Committee of the Royal Air Force Memorial Fund have agreed to administer an Airmen's Effects Fund derived from the unclaimed balances of officers and airmen's effects, which under the Regimental Debts Act are to be applied for the benefit of the widows and children and other near relatives, of airmen dying in the Service.

STORES BRANCH, ROYAL AIR FORCE—NEW SCHEME OF ENTRY, REVISED RATES OF PAY AND CONDITIONS OF SERVICE.—A new scheme has been approved for the entry into the Stores Branch of the Royal Air Force on permanent commissions of young men between 23 and 25 years of age and having five years' business experience. A competition consisting of a written examination and an interview was held by the Civil Service Commission in July, 1926. This scheme will supplement the existing arrangements for the transfer to the Stores Branch of General Duties Officers unfit for flying.

Revised rates of pay are now in force in the Stores Branch, commencing 1st July, 1926. While the pay in the junior ranks of Pilot Officer and Flying Officer have been reduced, the senior ranks (Squadron Leader and Wing Commander) receive an increase, the rate for Flight Lieutenants remaining unchanged. Provision has also been made for the rank of Group Captain in the Stores Branch. Certain Group Captains' posts at present filled by officers of the General Duties Branch may in future be held by officers of this rank in either the General Duties Branch or the Stores Branch. The ages of compulsory retirement of future entrants into the Stores Branch have been fixed at 53 for Squadron Leaders, 57 for Wing Commanders and 60 for Group Captains, and officers now serving may be allowed to continue to serve to these higher ages at the discretion of the Air Council.

#### THE CAPE FLIGHT.

The Cape Flight, consisting of four Fairey III.D aircraft with Napier Lion engines under the command of Wing Commander C. W. H. Pulford, O.B.E., A.F.C., which left Cairo on 1st March and was reported at Pretoria in last quarter's JOURNAL, continued their journey *via* Johannesburg, Bloemfontein and Beaufort West and reached Capetown on 12th April. The journey was accomplished without incident and according to programme. One or two days were spent at each stopping place on the route and a week at Capetown.

The Flight left Capetown for Pretoria *via* Victoria West and Kimberley on 19th April. At Pretoria a fortnight was spent at the Headquarters of the South African Air Force, and the aircraft and engines were carefully inspected there. All were found in good condition.

The flight was resumed on 3rd May, the same itinerary as on the outward journey being followed. Kisumu was reached on 11th May, and on the 12th the Flight proceeded to Nairobi, where the Governor of Kenya had specially invited them to call. On 15th May the Flight left Nairobi and on the 27th, one day ahead of programme time, reached Cairo, after encountering strong head winds all the way from Kisumu. Two days were spent in Cairo and on the 29th May, the Flight flew to Aboukir where float undercarriages were substituted for land undercarriages preparatory to the journey to England.

On 9th June the Flight left Aboukir, and flying *via* Sollum, Suda Bay, Athens, Corfu, Brindisi, Naples, Orbetello, Berre (Marseilles), Hourtin (Bordeaux) and Brest, arrived at Lee-on-Solent up to programme time on 21st June. The stage Berre-Hourtin, which involved an overland crossing of 300 miles, had to be carried out at 100 feet, owing to low clouds, while the flight from Brest to Lee was accomplished in a thick fog for most of the way.

This 14,000 mile flight was accomplished by the four aircraft without any change of engines, without incident and according to the programme drawn up beforehand, the flying time of each aircraft being approximately 200 hours.

### NAVAL CO-OPERATION

The Fleet Air Arm Flights belonging to aircraft carriers in the Mediterranean have been disembarked for the larger portion of the quarter and have carried out their usual training and exercises.

The Flights attached to the Atlantic Fleet have also carried out their normal routine of exercises and training.

The Flying Boats of No. 480 (Coastal Reconnaissance) Flight have carried out their customary training and patrol exercises from Calshot.

No. 481 (Coastal Reconnaissance) Flight at Malta (Fairey III.D Floatplanes) have co-operated as usual with the Naval and Military Units stationed at Malta, and have continued their normal routine of training and exercises.

### OVERSEAS COMMANDS

#### EGYPT

Training and co-operation work has proceeded on normal lines.

On 14th March, three D.H.9A's of No. 47 (B) Squadron carried two days' rations (1,400 lbs. in weight) to an Army detachment which was isolated by floods twelve miles south of Helwan.

No. 208 (A.C.) Squadron carried out a considerable amount of flying in connection with Army Brigade Training and Manœuvres.

The annual Air Exercises of the Middle East Command were held at Heliopolis on the 30th March.

CAIRO-BAGHDAD SERVICE AIR MAIL.—During the months February–April, the Service Air Mail operated as usual. The details for this period are as follows :—

|                                 | <i>February.</i> | <i>March.</i> | <i>April.</i> |
|---------------------------------|------------------|---------------|---------------|
| Number of machine flights ..    | 11               | 10            | 12            |
| Weight of mails carried—lbs. .. | 2,043            | 1,632         | 1,921         |
| Number of passengers conveyed   | 23               | 19            | 25            |

#### INDIA

An interesting flight of six machines from Nos. 27 and 60 Bombing Squadrons from Risalpur to Calcutta and back was carried out early this year. The route followed was Risalpur–Ambala–Cawnpore–Patna–Calcutta, a distance of 1,400 miles. On the return journey landings were also made at Delhi and Lahore. The outward journey took five days (18 hrs. 5 mins. flying) and included one day's rest at Patna, while the homeward journey occupied six days (17 hrs. 50 mins. flying), the aircraft being delayed one day at Ambala owing to the waterlogged state of the aerodromes ahead.

Two machines carried out a flight from Quetta to Mekran to inspect proposed landing grounds for Imperial Airways, Ltd., near Pasni, and to photograph the Mekran landing grounds.

During December and January, a Flight of No. 28 (A.C.) Squadron carried out two months' co-operation with the Army at Poona, Mhow and Jhansi. These stations are all over 800 miles distant from the squadron's base, and it is satisfactory to note that no failure of any kind occurred during the co-operation.

During February, co-operation was carried out with the Razmak Movable Column, the results being most satisfactory.

## IRAQ

The situation in Iraq has been quiet during the last three months and only minor operations have been necessary.

**SULAIMANIYAH.**—There have been one or two small clashes between the rebels and the Government forces in the Sulaimaniyah area. Early in April, Shaikh Mahmoud made tentative overtures for submission, but during June, he occupied himself in holding up the Jaf tribes during their annual migration to Persia. This migration was followed by a column composed of Iraq cavalry and infantry. On 14th June Shaikh Mahmoud and his followers having been reinforced by Avroman tribesmen and Persian Kurds, made a determined attack on this column. Assisted by aircraft the column easily repulsed the rebels. On the 15th June, air action was directed against Mahmoud and his followers, and since then little activity has taken place. The majority of Jaf appear to have paid taxes to Shaikh Mahmoud and to have passed over Tarniar Dagh.

**NORTHERN IRAQ.**—During March a dispute arose between Ajil, Chief of the Iraq Shammar Jarba, and Daham, Chief of the Syrian Shammar Jarba. With a view to maintaining peace in the area, air demonstrations were carried out and six armed Fords of No. 5 Armoured Car Company were sent to Ajil's camp to restrain him from commencing hostilities against Daham and to help him if attacked in Iraq. On the 2nd April, three armoured cars and four armed Fords which were on patrol were attacked by Daham's followers who had crossed the frontier. A short action ensued in which aircraft participated with machine guns and bombs, and the raiders were driven off with the loss of about fifty men.

During April, trouble arose between the Turks and the Goyan Kurds who live just north of the Iraq northern frontier, and as a consequence large numbers of Goyan refugees have migrated into Iraq territory and settled temporarily in the Zakho district.

**SOUTHERN IRAQ.**—On the 17th April an air demonstration was carried out over the village of a minor Chief who had been defying Government authority in the Hammar Lake district. From information subsequently received, it appears that the Chief had left the village the day before. Immediately after the demonstration, however, his brother surrendered and no opposition was offered to a police patrol which subsequently entered the village. The Chief concerned was arrested by the authorities at the end of the month.

**ARMoured CARS.**—No. 5 Armoured Car Company was engaged in operations, as reported above, and No. 6 Company has been concerned in minor operations in the Sulaimaniyah area. In addition, the Armoured Car Companies have carried out several extensive reconnaissances as well as ordinary training.

## PALESTINE AND TRANSJORDAN

Headquarters, Royal Air Force, Transjordan, remains unchanged. The Ramleh Flight is about to be re-equipped with D.H.9A's, and No. 14 Squadron is to be known as a Bombing Squadron on re-equipment.

One of three Spanish Breguet aeroplanes flying from Madrid to Manilla forced landed five miles North of the desert track between Landing Grounds "K" and "L" on the Cairo-Baghdad Air Mail route on 11th April. The machine was found on the 13th April, but the pilot and mechanic, who had attempted to walk



to Amman, were not discovered until the 16th and 17th when, after very extensive search operations by Nos. 14, 47 and 216 Squadrons and armoured cars, they were found in an exhausted condition in the vicinity of Landing Ground "H." The cars travelled 2,383 miles during the search and the aeroplanes flew 226 hrs. 40 mins.

## AVIATION IN FOREIGN COUNTRIES

### THE ALLIED-GERMAN AIR AGREEMENT

On 7th May, 1926, after discussion lasting several months, the delegates of Great Britain, France, Italy, Belgium, Japan and Germany initialled in Paris an "Air Agreement" consisting of a protocol with eight annexes, and eight letters with two annexes. In view of the close inter-relationship of these documents, the delegates, in submitting the agreement to their respective governments, recommended their acceptance "without reserve or modification."

2. Under this agreement the German Government have undertaken the following engagements:—

- (a) To prohibit the construction or importation of aircraft either armoured or equipped for the reception of any weapon of war such as guns, machine guns, torpedoes or bombs.
- (b) To ensure that German civil aviation is maintained within the limits corresponding to normal development, both in respect of commercial aviation, which may only be subsidised in proportion to this development, and in respect of training and sporting machines.
- (c) To impose the necessity for special authorization to be obtained for the construction or importation of aircraft having the characteristics of modern fighters, i.e., as regards climbing speed, speed, ceiling, etc. This authorization to be granted only for machines to be used in international or public competition or records; the numbers of such machines and pilots to be maintained within the limits of the number of civil aeroplanes of the same type in any other European country.
- (d) To ensure that neither the authorities in the Reich and the various State nor any public administrative departments in control of public funds, make any subsidies, except to working commercial air lines, or offer prizes of a nature to amount to subsidies.
- (e) To take the necessary measures to—
  - (i) Prohibit all instruction and training in flying of a military nature.
  - (ii) Prevent any public administrative department, concerned with an armed force, being connected in any way with aviation, other than anti-aircraft defence.
  - (iii) Forbid any instruction or participation in flying to members of the army or navy, except that a limited number may take pilots' certificates, for sporting purposes only, in their own time and at their own expense.

Six authorizations of this nature are to be allowed each year, commencing 1st January, 1926, until a total of 36 is reached. This total will then be maintained by three authorizations a year. A nominal roll of this personnel will be published each year in the "Heeresverordnungsblatt" (Army Orders).

Members of the army and navy, with a pilots' certificate prior to 1st April, 1926, may, to a total of thirty-six, continue flying. These thirty-six pilots will be placed upon a special list, in which vacancies will not be filled.

- (f) To ensure that registers are prepared, and kept up to date, of all factories making air material, of all machines and engines, pilots and pupil pilots, companies working air lines, organizations or societies utilizing aeroplanes, and any other owners of aeroplanes.
- (g) To prohibit pilotless aeroplanes.

3. The German Government agree to put into effect without delay the legal measures required by these undertakings, and the Allied governments recognize that this will abrogate the dispositions now in force to assure the execution of Article 198 (Air Clause) of the Treaty of Versailles.

As soon as this is done, the Committee of Guarantee, now in Berlin, will be withdrawn; and, without waiting for the entry of Germany into the League of Nations, Article 213 (Investigation) of the treaty will come into force as regards aviation questions, Germany placing registration lists at the disposal of the League in conformity with this article.

Should these measures prove inadequate in practice, the German Government, to whose attention any deficiency is drawn, will make such alterations as become necessary. This particularly applies to the possible effect on German aviation of the development of "gliders."

A definite assurance is given by the German Government that, in accordance with Article 198 of the Treaty of Versailles, the military forces of Germany, shall not include any military or naval air forces.

4. On their side the Allied governments are prepared to make the following concessions in air matters to Germany:—

(a) *Air police*.—Fifty police officials are to be allowed to receive instruction in flying and obtain pilots' certificates with the object, not of flying, but of acquiring information necessary to control commercial aviation. These are to be distributed among the various aerodromes.

Police organizations are not, however, to be allowed to possess any aeroplanes, and these trained pilots are only to be replaced when they have reached the age of 48. No other air police organization is to be allowed.

(b) *German aviation in occupied territory*.—The prohibition on German survol over occupied territory is to be withdrawn, and German legislation in air matters will then be applicable equally to occupied as to unoccupied territory. It will still, however, be subject to the powers of examination, veto and adaption which the High Commission already applies to all German legislation in the territories within its jurisdiction.

A new regulation, replacing the existing ordinance, is to be arranged between the High Commission and the Reichskommissar, which will require German aeroplanes to be furnished with a permit or *visa* of the High Commission, either collective and over a definite period, or individual and for a certain number of flights.

(c) *Air ports and landing grounds in the demilitarized zone*.—Germany is to be permitted to lay out the following air ports and landing grounds in the demilitarized zone:—

- (i) Four air ports : Cologne, Frankfort-on-Maine, a port North of Cologne and a fourth South of Frankfort, the actual sites being selected by Germany. The size of ports and installations are to be proportionate to the real demands of normal commercial aviation.
- (ii) Twelve landing grounds, to be selected by the German Government, each of a maximum area of 80 hectares and consisting of one collapsible hangar, a caretaker's house, a shelter for passengers and a shelter for night signalling apparatus.

The Allied Governments are to declare that the upkeep of these will in no way be considered as infringing Article 43 (demilitarization) of the Peace Treaty, but that these arrangements do not prejudice League investigation under Article 213.

(d) *Air installations in Germany.*—The Allied Governments are to renounce in favour of the German Government their proprietary rights in the installations at Friedrichshafen and the air installations left in Germany for the purpose of international navigation.

5. In the protocol it is laid down that the final signatures will be appended only after the German Government have taken the necessary measures to ensure the prohibition of military training and the organization of the air police.

### AFGHANISTAN

A good aeroplane service between Kabul and Jalalabad was maintained during the King's visit to the latter place in May. D.H.9's, D.H.9A's and a Bristol Fighter, all flown by Soviet personnel, were used on this work and there were generally three machines housed in the sheds at Jalalabad during the King's stay.

Flights have also been carried out by the Junker's passenger monoplane from Kabul aerodrome during this period.

Five Afghans were reported to be undergoing flying training at Kabul, but from the amount of flying carried out it seems unlikely that their tuition is progressing very fast.

The four aeroplanes which were sold by Captain Murphy to the Afghan Government are still lying, uncrated, at Peshawar. They are now in a very bad state and it will probably be found that they are beyond repair.

### CHINA

*Owing to the recent changes, this account of the aircraft situation in China must be taken as only approximate, both as to numbers and distribution.*

FENG-YU-HSIANG had, during 1925, at Peking, Paotingfu and Liaoyang, about sixty machines of which not more than a score were serviceable. It is possible that he managed to remove some of these to Kalgan, when forced to retire from Peking in the Spring of 1926. These machines have done very little flying during the last two years and only four machines were used in the operations round Tientsin in late 1925.

It is reported that a large number of Russians are employed by Feng in his aviation department.

CHANG TSO LIN has about 200 machines, of which about sixty might be serviceable. Of the total over one hundred are French types. They are stationed at Mukden, Chin-Chow and Hulu-tao. There are about six Russian pilots and about thirty Chinese.

This air service is the only one in China approaching efficiency. There is some attempt at organization and it is equipped with workshops, but its military value up to the present has been slight. Some air activity is displayed and a little bombing was done from a considerable height during operations in December, 1925.

Aircraft carry two machine-guns and many propellers have been shot away. The arsenal makes bombs and the Breguet machines carry two 100 lb. bombs each.

CHANG-TSUNG-CHANG has eighteen French machines at Tsinanfu and Marchang. Their condition is not known and no flying is reported.

SUN CHUAN FEN has about twenty machines, of which less than half are serviceable. They are mostly at Hung-Jao (Shanghai) and no flying is reported.

THE CANTON GOVERNMENT has three Curtiss J.N.4's, all in a very poor state of repair and one flying boat (probably a H.S.2.L) which must be at least five years old. It is reported that there are about four qualified Cantonese pilots. A Russian and a German are also believed to be employed. Only a small amount of flying is done.

TANG-CHI-YAO.—The Yunnanese Air Service is located at Yunnan-fu. It consists of half a dozen machines of French types, and is being trained with the assistance of French personnel. There are repair facilities and a certain amount of flying training is done. These machines have also been used in operations against brigands.

## FRANCE

ESTIMATES.—The Estimates, originally presented in November last, were finally approved at the end of April. The amounts passed were :—

|  | Francs.                  |
|--|--------------------------|
| Military Air Service .. .. .                                       | 642,048,201 <sup>1</sup> |
| Naval Air Service .. .. .  | 91,171,400               |
| Colonial Air Service .. .. .                                       | 10,274,299               |
| Civil Aviation and the Office of the U.S. of S.<br>for Air .. .. . | 140,856,500              |

The corresponding figures for 1925 will be found in these Notes for December, 1925.

MILITARY AIR SERVICE.—The re-equipment of units with the all-metal Breguet XIX is progressing, and it is hoped that all units due for replacement will have been supplied before the end of the year.

NAVAL AIR SERVICE.—The establishment of machines per squadron has been temporarily reduced to six, as stated in last quarter's Notes, and six is the number that is being maintained in commission under present conditions. It is intended,

<sup>1</sup> Includes 250 million francs to be expended on aircraft material this year but paid for out of subsequent budgets.

however, that the establishment of squadrons shall be twelve as soon as considerations of personnel, etc., permit.

**LONG DISTANCE FLIGHTS.** *Paris-Tokyo.*—On 25th May, Captain Pelletier D'Oisy left Paris on a Potez type XXVIII, fitted with a 600-h.p. Lorraine-Dietrich engine. He intended to complete the journey by easy stages, but on 26th May, when taking off at Warsaw, he turned the machine over and the damages were beyond repair.

The firm of Potez were unable to provide D'Oisy with another machine, and therefore on his second attempt to reach Tokyo, he was piloting a Breguet XIX, fitted with specially large tanks and a 450 Lorraine-Dietrich engine.

Leaving Paris on 11th June, he reached Pekin on 18th June. His route and the distances were:—

|            |                     |    |    |    |    |            |
|------------|---------------------|----|----|----|----|------------|
| June 11th. | Paris-Warsaw        | .. | .. | .. | .. | 950 miles. |
| " 12th.    | Warsaw-Moscow       | .. | .. | .. | .. | 720 "      |
| " 13th.    | Moscow-Kourgan      | .. | .. | .. | .. | 1,205 "    |
| " 14th.    | Kourgan-Krasnoiarsk | .. | .. | .. | .. | 1,100 "    |
| " 15th.    | Krasnoiarsk-Irkutsk | .. | .. | .. | .. | 560 "      |
| " 16th.    | Irkutsk-Tchita      | .. | .. | .. | .. | 500 "      |
| " 17th.    | Tchita-Mukden       | .. | .. | .. | .. | 1,250 "    |
| " 18th.    | Mukden-Pekin        | .. | .. | .. | .. | 405 "      |

The total distance was 6,690 miles, and his average daily flight was 836 miles. He announced on arriving at Pekin that he was not going to continue the flight to Tokyo as originally intended.

*Paris-Basra.*—Captain Arrachart, accompanied by his brother, Adjutant Arrachart, started from Le Bourget on 27th June in an attempt to break the world's record for a non-stop straight line flight. They landed at Basra after 26 hours 35 minutes in the air, having covered a distance of 2,737 miles, thus breaking the world's record.

Arrachart was flying a Potez type XXVIII, fitted with a 550-h.p. Renault engine. It is reported in the press that after Constantinople the main petrol pump gave out, so that the passenger had to work the hand pump for the remainder of the journey. No further details have been received.

The above-mentioned Potez XXVIII machines were specially constructed for record breaking long distance flights. They were fitted with very large capacity tanks and had on board the very minimum equipment possible, not even wireless being carried. The Breguet XIX on which Captain Pelletier D'Oisy made his successful attempt was also a special machine, having extra tanks fitted and all of the military equipment being omitted.

## ITALY

**ITALIAN AIR ESTIMATES.**—The Italian Air Estimates for 1926-27—1st July to 30th June—were passed by the Italian Senate on 21st May, at the figure of 700 million lire, as compared with 548,830,000 lire for 1925-26. The new Estimates include 30 million for civil aviation and approximately 50 million for extraordinary expenditure, thus leaving a net total of 620 million lire for Service aviation. The latter, in Italy, embraces all flying carried out for both the Army and the Navy. It is probably, moreover, that the 1926-27 figure will be still further increased by supplementary votes in accordance with usual Italian practice.



**ITALIAN WORLD FLIGHT.**—Colonel de Pinedo who successfully accomplished a 34,000 mile flight from Italy to Australia, Japan and back, last summer, is now making preparations to carry out another long distance flight. The machine will be a Wal all-metal flying boat, built by the Dornier Works at Pisa, fitted with two 500-h.p. Asso engines, built by the Isotta-Fraschini Works at Milan. It is understood that the route will be as follows: Italy, Spain, South America, North America, Japan, Australia, Africa, Italy.

**ROUND ITALY FLIGHT.**—A flight was carried out at the end of May in two A.300/4's—the standard land reconnaissance aircraft of the Italian Air Force—by an officer pilot and a sergeant pilot of No. 40 Reconnaissance Squadron.

The machines left Mirafiore (four miles south-west of Turin) on the morning of 27th May, and reached Catania in Sicily the same evening, having landed *en route* at Pisa and Naples. The following day they flew from Catania to Bologna in 9½ hours, landing at Grottaglie (east of Taranto) and Foggia on the way. On the third day they returned to their starting point Mirafiore, having covered, approximately, 1,900 miles in 22½ flying hours.

### PERSIA

**POLICY.**—Colonel Ahmed Khan Nakohevani, who returned in February to Persia from France, where he had been through a course of flying instruction, has been appointed Chief of the Air Service. He flew back to Persia from France on a Breguet 19, accompanied by Commandant Dagneau of the French Air Service flying a similar type. No new policy has been definitely inaugurated with regard to the Air Service, but a Commission of Enquiry appointed by the War Office has recommended that a fund should be opened to be supported by a system of voluntary contributions throughout the Kingdom (as has been attempted in Turkey) for the purpose of financing the purchase of fifty new machines.

Four machines were employed in operations during the Turcoman Revolt in the Spring. The General Officer in command considered that these had helped considerably in bringing the operations to a successful conclusion.

**STRENGTH AND PERSONNEL.**—Little change has taken place during the period under review. Four Persian officers, trained as pilots in Moscow, have returned to Persia for duty.

During the festivities celebrating the coronation of Riza Shah an air display was given in Teheran on 1st May. Eleven machines took part; they included 1 Breguet 19, 1 Spad, 1 Potez (purchased from France), 2 Avros, 3 D.H.9's (purchased from Russia) and 3 Junkers.

### UNITED STATES

**ESTIMATES 1926-1927.**—The Estimates set out below have been passed by Congress and only await the signature of the President to become law:—

(a) *Navy Air Service.*—The Estimates for the fiscal year ending 30th June, 1927, amount to \$22,296,288 = £4,587,714.

Out of this total a sum of \$12,362,000 (£2,543,621) is earmarked for the purchase of and construction of aircraft and equipment. In addition, the Secretary

of the Navy is authorized to enter into contracts for new aircraft to an extent of \$4,100,000 (£843,621) during the fiscal year 1926-1927, but such obligations will not be met until Congress meets during the 1927 session and authorizes payment.

(b) *Army Air Service*.—The Estimates for the fiscal year amount to \$15,256,694 (£3,139,139).

A sum of \$6,754,000 (£1,389,712) of that amount has been allotted for the purchase of and construction of aircraft and equipment. During the fiscal year ending 30th June, 1927, the Secretary of War may enter into contracts for new aircraft up to but not exceeding \$3,000,000 (£617,284). As in the case of the Navy, such contractual obligations will not be met until Congress meets during the 1927 session and authorizes payment.

(c) *Indirect Appropriations*.—It should be noted that in addition to the above amounts there are numerous indirect appropriations contained in the Estimates of the Army and Navy which have proved in recent years at least equal to the direct appropriations.

NAVY AIR SERVICE 5-YEAR EXPANSION PROGRAMME.—The period of this programme is from 1st July, 1926, to 30th June, 1931.

The expansion scheme aims at increasing the aircraft strength during the five years ending 30th June, 1931, to a total of 1,000 machines, including approximately 300 first line fleet-borne aircraft and approximately 200 first line shore-based aircraft. It is the intention to maintain that number thereafter by an annual purchase of 333 machines.

The building of two rigid airships, each of a capacity of 6,000,000 cubic feet for use with the fleet, and one metal-covered airship of a capacity of 200,000 cubic feet for experimental purposes, is also included in the scheme.

The estimated cost of this programme is:—

- (a) H/A total cost 1,614 machines, \$85,078,750. Annually thereafter, \$17,476,250 for purchase of 333 machines each year.
- (b) L/A total cost 2 rigids, not to exceed \$8,000,000. Total cost 1 metal airship, \$300,000.

The above figures do not include cost of maintenance or increase in personnel.

SUPPLEMENTARY ESTIMATES.—Although the President has authorized the programme outlined above, construction of all the new aircraft required for the first year of the expansion cannot be commenced until Congress passes supplementary estimates on a large scale.

The necessary increase in personnel during the five years is also allowed for so that by June 30th, 1931, sufficient pilots should be available to man the machines in addition to personnel for maintenance purposes.

THE BYRD ARCTIC EXPEDITION.—Lieut.-Commander Byrd of the U.S. Naval Air Service left America on 6th April, on the S.S. "Chantier" for King's Bay, Spitzbergen Island, from which place he decided to make an attempt to fly over the North Pole.

It is reported that on 9th May, Lieut.-Commander Byrd, as navigating officer, and Lieutenant Bennett, pilot, left King's Bay in a 3-engined Fokker monoplane, and after a flight of 8½ hours reached the Pole. They did not land but returned to their base at King's Bay after a total flying time of approximately 16 hours.

## AIRSHIP NOTES

### GREAT BRITAIN

**NEW AIRSHIPS.—EXPERIMENTAL WORK.**—An experimental bay, equal in size to the largest cross section of R.101, has now been built and stress experiments are in progress on it. An inflated gas bag is being put inside it and it will be tested as far as possible under the conditions it will meet in the airship.

The Airship Guarantee Company have had specimens of their girders made up and successfully tested, and it is understood that they contemplate the erection of an experimental ring for stressing tests.

**PROGRESS OF AIRSHIP STATIONS.—Cavdington.**—The shed is now finished and the mast practically so. The station is therefore almost complete.

**Egypt.**—Gas plant and subsidiary works have been completed and the mast structure is built, but the head has not yet been fitted. It is estimated that about three months' work remains to be done on subsidiary services.

**India.**—The first consignment of steel work for the Indian shed left this country a short time ago. Progress has been made with foundations of the shed and with the water and other services incidental to the base.

### ITALY-NORWAY

The airship "Norge," having carried the Amundsen Expedition across the North Pole, landed at Teller, in Alaska, on 15th May. It had been intended to land at Nome, a little further south, but on the last stage of the voyage the airship came in for severe buffeting, while fog added to the difficulties. Eventually a serious leakage of gas developed and it became necessary to risk landing at a place where no preparations had been made. The damage to the fabric which produced the leak seems to have been caused by ice thrown off by the propellers.

Sergeant Ettore Arduino dropped in a parachute and marshalled the local inhabitants to bring the airship to rest. This was done without damage.

The total distance covered after leaving Spitzbergen until arriving at Teller was estimated to have been 3,393 miles, but according to Signor Nobile, the Italian designer, builder and pilot of the "Norge," enough fuel remained to have flown another thousand miles. The chief discomforts of the journey are said to have been due to lack of sleep and to food becoming frozen.

The "Norge" was deflated at once and subsequently dismantled and shipped home in sections.

In a report published in *The Times*, Amundsen is stated to have expressed the opinion that the expedition had demonstrated the feasibility of the Polar route for travel between Europe and the Orient in a few years time.

### JAPAN

**ITALIAN-BUILT AIRSHIP.**—The envelope of the new semi-rigid airship (250,000 cubic feet), which was recently built for Japan by Italy, was destroyed by fire on 16th June, at Rome. The framework, however, was not damaged.

### UNITED STATES

See Air Notes, page 644.

## REVIEWS OF BOOKS

**The Campaign in Mesopotamia, 1914-1918.** Based on Official Documents compiled by Brig.-General F. J. Moberley, C.B., C.S.I., D.S.O., p.s.c. Vol. III. (H.M. Stationery Office.) 15/-.

It will be remembered that the second volume of the Official History of the Mesopotamian Campaign terminated with the surrender of Kut, "a tale of tragedy relieved only by the fruitless heroism of our troops." (R.U.S.I. JOURNAL, Vol. LXX, No. 477, p. 178). The misfortunes to the British arms therein recorded were due to the grave defects in the system, or rather lack of system, for the higher direction of the operations by the Government. The tangled chain of "a multitude of counsellors," through which the orders of the Supreme Authority were issued, led, inevitably, not only to uncertainty in policy, but—what was more fatal—to enterprises being sanctioned for which the forces available were insufficient and the administrative preparation entirely inadequate.

Happily, Sir William Robertson, in January, 1916, shortly after assuming the responsibilities of C.I.G.S., succeeded in persuading the War Cabinet to sanction the disentanglement and shortening up of this chain of higher control, a change which, though too late to avert the surrender at Kut, resulted in the subsequent narrative of the campaign, as unfolded in the volume under review, being a record which English men and women can read and study with pride and profit. The volume, in fact, starting at the bottom of the pit of tragic failure, rises with steady and unchecked ascent to victory and a complete attainment of the objectives aimed at.

The military student may find it convenient to group the lessons of this phase of the Mesopotamian Campaign under three headings: (i) Strategic direction; (ii) Administrative reconstruction and maintenance; and (iii) Tactical leadership, though, of course, ever having in mind the close connection and interdependence of these three main branches of the art of war.

Strategically the real issues were henceforth rightly envisaged. Mesopotamia, though an important factor in the problem of ensuring the safety of India, must be subordinated to the needs of the main theatre of war. For this reason no further hazardous enterprise could be allowed. Even the recovery of Kut itself was not permissible until it was clear that the force available for that purpose had been adequately built up in strength, equipment and supplies. The occupation of Bagdad and subsequent operations were similarly safeguarded against risk by all reasonable prevision. Finally, it is to be noted that the decision of the Government to place the C.I.G.S. in direct communication with the C.-in-C. in India and the G.O.C.-in-C. in Mesopotamia, the clarity of the instructions henceforth issued under Sir W. Robertson's signature, and the complete mutual understanding established between Sir Charles Monro and General Maude greatly facilitated this higher control and form a model for future guidance. The tantalizing and elusive factor in the Mesopotamian strategic problem throughout this time was the hope of Baratoff's co-operation from the north-east, a hope which the malignant influence of the Russian revolution diminished slowly but surely, and in the end finally extinguished.

Yet, however great credit may be justly given to the strategic direction of His Majesty's troops in Mesopotamia from 1916 onwards, such guidance would have been of no avail but for the no less vital administrative re-construction. It is pleasing to see, that the official history in its, perhaps, necessarily compressed record of the lines on which this all important work was carried out, emphasizes what indeed General Maude hastened to state in his first despatch home, that the firm administrative foundations for the winter campaign of 1916-17 were laid, and well laid, by Sir Percy Lake, who had laboured unceasingly to that end during his period of command. The successful completion of the task owed very much to the lavish despatch of personnel and materiel by the authorities at the War Office, especially by the Quartermaster-General to the Forces, Sir John Cowans, to the whole-hearted co-operation of the Government with the C.-in-C. in India, and to the personal supervision of General Maude himself during the first three and a half months of his command; but though all these contributed indispensable aid and wise direction, the main credit for the construction of the machinery of army maintenance which henceforth was to work so effectively and smoothly would seem due to the officer upon whom the responsibility lay, Major-General McMunn, the Inspector-General of Communications.

General Moberley reminds us on the authority of Major-General Sir Charles Callwell, that Sir William Robertson was entirely responsible for the selection of General Maude, a comparatively junior officer, for the supreme command in Mesopotamia. Never was a difficult choice more absolutely justified by results. If Maude had a fault, it was that of Napoleon, i.e., a thoroughness and unsparing attention to details which tend somewhat to over-centralization; but this tendency was more than counterbalanced by Maude's supreme gifts of leadership, a genius for gaining the confidence and affection of all ranks under his command, a masterly knowledge of the details of his profession, a clear, level-headed and fearless judgment in difficult strategic situations and a heaven-sent gift of tactical inspiration in the handling of his troops in action. Space does not permit here of any detailed analysis of this last quality. It must suffice to recommend to the reader a close study of Maude's masterly scheme of attack by punches, first on Shumrau Bend, then on the Khudhaira Bend, combined with feints on the Husaini Bend and on Sannaiyat and followed by a supreme blow on the Dahra Bend and by the advance on the left bank of the Tigris, which consummated that brilliant achievement the taking of Kut. Well worthy, too, of study are the occupation of Bagdad and the subsequent actions (the official historian prefers the good old-fashioned expression, affairs) to the north-east and north, which though failing through lack of Russian co-operation, to bring into the net the remnants of the XIII and XVIII Turkish Corps, drove them finally back to Mosul and secured the tranquility of the British Army during the enforced rest of the approaching summer. Whether in these operations Maude's cavalry reaped as much harvest as he hoped is perhaps open to question, but his use of wireless in directing the movements of the various detached columns is a particularly interesting example of the extension of a Commander-in-Chief's direct control, and proportionate diminution of the freedom of his subordinate commanders, which that invention had brought about, a re-adjustment requiring more than ever close mutual understanding and trust.

A striking feature in all these operations is the stubborn fighting of the Turks and their capacity for delivering well-timed counter-attacks.

The official historian is much to be congratulated on his maintenance throughout this volume of the high standard attained by him in its predecessor. The



writer of an official history is faced with a task more difficult than that of other workers in the historical field, in so much as he is forbidden to record comments of praise or blame or express definite judgment. He is dependent therefore on his personal skill for the marshaling of his facts so clearly and intelligently that his readers may without other aid form for themselves the right conclusions. No higher compliment can be paid to Brigadier-General Moberley than that he has succeeded in doing this.

**The German Official History of the War.** Vol. III. *Der Weltkrieg, 1914-18. Bearbeitet im Reichsarchiv. Die Militärischen Operationen zu Lande. Dritter Band.* (Berlin. Mittler.)

The third volume of the German Official History deals with the operations on land "after the frontier battles of the Sambre up to the eve of the battle of the Marne." The account as regards the centre Armies, the Fourth and Fifth, begins on the 26th August; as regards the Supreme Command and the left, the Sixth and Seventh Armies, on the 27th; for the three Armies of the right wing, on the 28th; and ends for all on the 4th September. So much has already been written about the right wing, with which the British Expeditionary Force was engaged—the three Army Commanders, Kluck, Bülow and Hausen, have all written apologies, and the action of the Cavalry Corps has been told in Poseck's "*Deutsche Kavallerie in Belgien und Frankreich, 1914*"—that the new volume adds little to our knowledge of the campaign as it concerns ourselves. Indeed the B.E.F. saw little of the Germans in the period, except on the 1st September, when the fights at Villers-Cotterets, Crépy-en-Valois, and Néry took place.

The narrative is a very fine summary, almost as condensed and succinct as a despatch. It is a strategic account, which seldom mentions any formation or unit below an Army Corps, although the doings of the Supreme Command and its officers are somewhat fully described. The details of fighting are provided elsewhere, in the official monographs. For instance, the three days' battle of St. Quentin (Guise, 28th-30th August, 1914), to which two volumes in the monograph series have been devoted, is summarized in 40 pages in the present account.

The outstanding strategical feature in the new volume of the days between Le Cateau and the Marne is that Kluck considered and reported to the Supreme Command that not only was the B.E.F. in full flight, but that the elements of the French Sixth Army (Maunoury) in process of formation on the British left, had been beaten near Amiens and were not likely to give any further trouble. The fortress of Paris was regarded as a mere "ghost that need not be feared until it took on flesh and blood." No alarm was therefore felt for the exposed German right flank until 2nd September. Nor was Kluck alone in his optimism. All the Armies except the two on the left claimed great victories. Bülow indeed reported that the battle of Guise was a "complete victory" (*vollständiger Sieg*)—they reiterated that the enemy was completely disbanded (*in voller Auflösung*), in flight or what looked like flight. The two commanders on the left were expecting to capture the Grand Couronné of Nancy in a few hours directly their super-artillery was in place, and then hoped to press on through the Trouée de Charmes and assist the others to surround the French in the open field in a super-Sédan and end the war. The Supreme Command seems to have had its doubts and to have been suspicious that Joffre might act as he did and shift corps from east to west; but before 4th September the Armies sent no confirmation of this, except when on 2nd September the Third Army reported some train movement westwards near Rheims. Far from detecting the withdrawal of divisions, they could discover no

diminution of strength on their fronts; Crown Prince Rupprecht on the left, in particular, continued to declare there were strong forces before him. The aviators reported nothing but retreating columns.

The communication between O.H.L. (Oberste Heeres-Leitung, the Supreme Command), back in Coblenz until the 30th August, and after that date at Luxembourg, with the Armies, was by wireless. But German thoroughness had overlooked interference both from atmospherics and the Eiffel Tower. The use of wireless naturally necessitated the enciphering of messages. Hours were spent repeating and checking until the cipher groups were received complete and correct. Thus messages became short and few, and "as in 1870" the Army Commanders exhibited more and more independence, and went their own way: Kluck on his zig-zag course; Bülow slowly and cautiously, even giving his troops a rest day, and getting behind Kluck; Hausen of the Third Army neglecting his own task and using up his troops to help the Armies on either side, which were constantly calling for help in spite of their victories. One curious result of the slow means of intercommunication, coupled with the bad staff work, was that the proper sequence of messages was overlooked. Thus, at 10.30 p.m. on 30th August, Kluck drafted a message to O.H.L. to the effect that he was wheeling south-east to the Oise to exploit supposed success of the Second Army at Guise; the message was enciphered by 12.45 a.m. and sent off at 2.54 a.m. At 4.0 a.m. a message sent off at 9.55 p.m. was received from O.H.L. approving of the "proposed movement." Kluck took this to apply to his 10.30 p.m. message. "Evidently in the press of events the First Army overlooked the time of sending" says the official historian. The approval really applied to an earlier message in which Kluck signified his intention of ceasing to pursue south-westwards and of turning south. General von Kuhl, Kluck's Chief of Staff, will no doubt have some excuse to offer.

There is a full explanation in the text of how it happened that the 4th Cavalry Division (Garnier) ran into the British 1st Cavalry Brigade and "L" Battery R.H.A. at Néry on the 1st September. Kluck in pursuance of his move south-eastwards to strike the French left had on the 31st August ordered the II<sup>nd</sup> Cavalry Corps towards Villers-Cotterets; in the afternoon General von der Marwitz, its commander, heard from an air report that the enemy had already reached the town, and to strike behind the French front he must make a wider sweep. Regardless therefore of the possible presence of the B.E.F., Marwitz changed direction south towards Nanteuil-le Haudouin, the 4th Cavalry Division leading, and during the night it discovered British bivouacs. General von Garnier decided to wait till dawn and then attempt a surprise by fire. The other two cavalry divisions, the 2nd and 9th, are said to have been stopped by strong enemy forces south-east of Verberie and at Néry, that is by the 4th Division rear-guards.

It is definitely stated that the German forces available were not sufficient to seize the Channel ports. "Agents (about 31st August) reported landings of British troops at Ostend and Dunkirk . . . but it was not possible to verify this information." Actually three battalions of Royal Marine L.I. landed at Ostend on the 27th and 28th August, and re-embarked on the 31st. The history continues unkindly: "The more than usual inactivity of the German fleet after the costly small cruiser action off Heligoland on the 28th, made a landing at Ostend and Dunkirk not improbable."

The absurdity of the belated O.H.L. orders is not spared. They directed Kluck's Army "to remain" in echelon behind Bülow's Army, when it was a day's march ahead of it, and to cover the right flank between Oise and Marne, when it

had already passed the Marne, and was between Marne and Seine. New information is added that Kluck did not mean to cross the Marne, and it was his left, the IXth Corps (Quast) that pushed over the river, finding the passages undefended, and the IIIrd Corps next it followed suit.

It can hardly be wondered in view of the independent movements of Armies and Corps, and of scanty and belated news, that O.H.L. came to wrong conclusions and the German Armies blundered on into the trap between Verdun and Paris. The German appreciation of the situation on the 4th September was: "The extreme French left wing, which had been defeated and had retreated south-westwards required no more attention, nor need any considerable strategic importance be attached to the continually retiring British. The main objective was now the mass of the French Army." At the same time it was settled that the left wing, the Sixth and Seventh Armies, should begin the attack of the Nancy position and do what it could to hold the thirteen French Corps still supposed to be in front of it. The Fifth (Crown Prince's) Army was to work round Verdun and attack it from the west.

On the afternoon of the 4th September, O.H.L. learnt of great French troop movements westward. The pursuit had not been close enough to fetter Joffre's freedom of action and he had retained the power of manœuvre. "The German plan was no longer feasible. The question was, what should be done." At 7.20 p.m. on the eve of the Marne, messages, instead of a comprehensive operation order, were despatched to the Armies—a sign of haste and uncertainty—and no information regarding the enemy was vouchsafed. The message to the Third Army only need be quoted:—

"First and Second Armies remain between Oise and Seine before the east front of Paris. Left flank of the Second Army advances through Vertus—Fère Champenoise on Méry. The Third Army will advance on Troyes-Vendœuvre. The road *via* Vitry le François, east of the Marne, belongs to the Fourth Army."

It would be difficult to compose anything less helpful or more misleading.

There are chapters on the capture of Maubeuge, on the situation in Belgium, the railway communications, and a final one on the Allied operations taken from the French and British sources.

The maps are not up to the high standard of the text, showing only the front on various dates, not even every day, and not giving the routes followed by formations, nor Army boundaries.

The next volume is to deal with the Battle of the Marne.

**Aircraft and Commerce in War.** By J. M. Spaight. (Longmans, Green and Co., Ltd., London.) 6/-.

This interesting little work deals from wider points of view with a subject on which Captain F. E. Storey, R.N.R., has twice, in recent years, contributed to the pages of the JOURNAL.<sup>1</sup> It is time indeed that the general public should be brought to realise the grave potential danger to our economic existence which will arise if unrestricted air warfare is waged by a Continental air power against our merchant shipping.

It is to the citizen and not to the specialist, as the author tells us in his preface, that he makes his appeal, otherwise one might be inclined to criticise

<sup>1</sup> "Defence of our Merchant Ships in a Future War," May, 1925; "War Readiness of the Merchant Service," May, 1926.

the rather laboured exposition of the importance of economic pressure and the part played by the Navy in applying it, which occupies the greater part of the first chapter. Like so many air enthusiasts, he is inclined to over-estimate the power of aircraft and, more particularly, their capabilities as substitutes for war-ships. In spite of the "gales" which flying-boats are supposed to have weathered, the time seems far distant when these or any other form of heavier-than-air craft will possess the endurance to keep watch, night and day, for weeks on end, without retiring to a base, in the way that cruisers are called upon to do.

In some respects Mr. Spaight's new work is in curious contrast to his "Air Power and War Rights."<sup>1</sup> In the latter he would seem to argue that the conquest of the air will exercise a humanitarian influence upon warfare. In our review of that book it was remarked that "It is far better to face the fact that the air will, in all probability, brutalise war in a manner but faintly conceivable." Now we find him writing: "The weaker power . . . if he is to strike at shipping . . . will have to strike swiftly or not at all. To allow a respite to give a crew the opportunity to take to the lifeboats before a vessel is attacked, will usually be impossible. . . . Normally one may expect the attack to be accompanied by the full measure of *Schrecklichkeit* (frightfulness) to which we grew accustomed in 1915-18. The writer is forecasting facts. They may be regrettable and terrible, but if they are probable they should be faced." This is a far more robust and practical attitude from which to examine the problem, but, unfortunately, the "legal mind" which permeated "Air Power and War Rights" again makes its influence felt in an otherwise admirable exposition of this important subject.

The author argues to a conclusion that the real solution lies, largely, in Trade Agreements, similar to those which neutrals entered into in the late war. These, he says, "should provide for sea and air power a kind of juridicial screen behind which commerce interruption can be made absolutely paralysing without being chargeable with illegality." Elsewhere he says "The agreements were and always will be voluntary"; but this is the rock on which such legal arguments are shipwrecked. To be honest, the agreements which did so much to control the shipping of neutrals in the late war were very often by no means voluntary on their part. Such restrictions were, and always will be, accepted chiefly on account of the pressure of *force majeure*. We were able to apply this power of persuasion, to a great extent, by our control on supplies of bunker coal, the world over. With the increasing use of oil fuel, that power is diminishing. In the next war, therefore, we shall have to rely all the more on the strenuous application of sea power to prevent supplies reaching our enemy. Sea power, to-day, means the use of craft which can float on the sea, dive under the sea and fly above the sea; "air power" like "submarine power," is a valuable auxiliary to the surface Navy in controlling enemy and neutral shipping in war. As Mr. Spaight argues, although he expresses it slightly differently, we, as the stronger power afloat, must cultivate this air auxiliary because aircraft have provided the weaker power with a new weapon wherewith to attack us.

This special function of aircraft is distinct from, although it must co-operate closely with, their main one, that of defending this island against Continental air attack. The author of "Aircraft and Commerce in War" would have succeeded even better in his patriotic task if he had made it more obvious to "the man in the street" that new dangers have arisen, but that many of the old ones still endure, and therefore, unfortunately, he must pay a higher insurance policy.

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<sup>1</sup> Reviewed in R.U.S.I. JOURNAL of November, 1925.

In these days, the education of the public in matters of national and Imperial defence is all the more necessary because we have a mass of idealists always ready to increase civil expenditure at the expense of the fighting Services. It is particularly dangerous therefore to convey any impression that "scraps of paper" will be a substitute for armed force in war.

"The system of agreements," says the author, "can be so organized and linked up with the work of the sea and air patrols that the great majority of ships need not be held up at all . . . the function of the patrols will largely be confined to identifying the vessels for which free passage has been authorised and to stopping the few for which it has not."

This gentlemanly way of making war is, we fear, Utopian. It presupposes that neutrals will sign and abide by agreements made out to our dictation; and they will, but only if we possess such sea and air forces that it will not be worth their while to dispute the matter; otherwise, why should they?

**The Spencer Papers, 1797-1801.** Vols. III and IV. Edited by Rear-Admiral H. W. Richmond. (Navy Records Society.) 16/- and 15/-.

The latest two volumes of "The Spencer Papers" cover the years 1796 to 1801, and contain material indispensable to students of the Revolutionary War, but considering the wide range of topics dealt with in this correspondence, it would have added to its interest if there had been a statement of policy regarding the proportion of the whole which has actually been printed, and the principles governing its selection. The absence of such definite information somewhat detracts from the value of the work in the eyes of serious investigators.

The Editor skilfully employs his exceptional knowledge and experience to elucidate questions of naval strategy affecting every quarter of the globe, but the general impression left by this volume of correspondence scarcely does justice to the principal character. After all it was the great administrative ability of Spencer for which he deserves to be remembered, yet this is not brought out at all prominently in these volumes. Certainly, we see him coaxing and restraining the Gardners, Parkers and Sidney Smiths of life, but the variegated collection of letters are like trees, which tend to deprive the reader of a clear view of the wood, so that the modest personality of the great First Lord seems to recede further and further into the background.

Volume III opens with the complaint of Sir William Parker in regard to patronage in the Marines, and other rather uninteresting topics, for which the omitted "administrative questions of dockyards" might possibly have been substituted. The trouble caused by Bruix's Cruise is explained in an excellent introduction, and the Editor fastens on lack of transport as contributing largely to the failure of the Helder Expedition. Mitchell's letters, explaining the operations and emphasizing his cordial relations with Abercromby and the soldiers, are gems of honesty and devotion. Later the status of the captured Dutch fleet causes difficulties, and George III vouchsafes a few characteristic lines.

Hyde Parker, writing from the West Indies, is somewhat tedious, and the chief interest lies in Spencer's administrative handling of the situation. Pellaw's plans for attacking Bellisle make excellent reading, together with St. Vincent's praise and hints of difficulties. The two maps illustrating the operations are not very adequate, and it would also be better if in future all remarks by the editor were in a type clearly distinguishable from that used for the correspondence.

Volume IV is a better production in every respect. St. Vincent is vividly portrayed in numerous letters dealing with command and discipline.



Sir Sidney Smith contrives to irritate nearly every flag officer in the Mediterranean, and "talks so large" to Troubridge that he makes that worthy "sick." Lord Elgin complains that Smith "has assumed the character of Minister Plenipotentiary, grounded upon his having had that nomination to enable him to sign, with his brother, a treaty here (Constantinople) last winter. He continues this title without confirmation, instructions or powers from home, and he has exerted it upon different occasions to exercise policy in Cyprus and elsewhere, a fact literally without precedent in diplomatic history." Meanwhile the culprit goes from strength to strength, boldly defending the Convention of El Arish on the grounds that Kleber's army would be less dangerous in France than in Egypt. We then pass to the profoundly disconcerting effect of Bonaparte's Egyptian Expedition on our strategy in general. Even after Aboukir Bay the danger was considerable, and the alarm spread to the Middle East, the Cape and, finally, India, where Tippoo Sahib was quite ready to co-operate with the French. The Editor clearly demonstrates the close interdependence of every phase of our strategy and, in future, no account of this expedition will be complete without the valuable evidence afforded by Spencer's correspondence with Blankett and Rainier.

The volume closes with some interesting proposals for attacking the Russians in the Bosphorus and at Cronstadt and Revel, and also for a landing on the Dutch coast, which should be compared with those for the abortive attacks on the Spanish Colonies in South America, mentioned in the Cape correspondence. Pitt's letter, announcing the signing of the Preliminaries of Peace, emphasizes the worldwide character of the war and is a fitting end to Spencer's work.

We hope that Vice-Admiral Sir Herbert Richmond, as he has since become, may find time to edit more of these valuable publications of the Navy Records Society, for his is a pen which can give life to and point the lessons of the history of an otherwise dead past. Only by such interpretation can we profit by the deeds and counsels of our forebears.

**Report on Army Manœuvres, 1925.** Official. (London: Printed and published by His Majesty's Stationery Office.) 4/6.

It seems more than a pity that the official report dealing with Army Manœuvres, 1925, should only become available to the public—not to mention to the less favoured among the officers of H.M.'s Forces—until over eight months after the close of the exercises that come under criticism. The numerous accounts, both amateur and semi-officially inspired, that have appeared in the Press have long ago left their mark on those interested. Impressions have become crystallized and the manœuvres have already been discussed *ad nauseam*. Consequently this report must fall largely on unreceptive ground. To many, including the protagonists of the play, it will contain nothing new. The conferences and subsequent discussions—shall we also add "wiggings"—have left little fresh that could be said in a work of this sort. Besides which, it is rumoured, that much has been intentionally suppressed. One may ask whether the chief value of such a report should not be the education of the senior officers of the Army. It may seem to some of those who attempt to profit from this official account, that all that is contained therein is good, very good and very useful. But how much will it not be felt that more might have been given to those who thirst for professional knowledge and for an insight into the views of higher authority? Officers serving abroad, not to mention officers of the Territorial Army, deserve some consideration in this respect.

**A Short History of the British Army to 1914.** By Eric William Sheppard, Royal Tank Corps. With maps. (London: Constable & Co.) 1926. 14/-.

To write a complete and detailed history of the British Army within the compass of some 300 pages is a virtual impossibility. Captain Sheppard has produced a book which cannot aspire to be classed as more than a popular but pleasant résumé of so vast a subject. Accordingly it can only be regarded, by the student of war, as a book of reference on which to base his further study. Even so the volume would be the better for a more careful treatment and arrangement; thus Chapter VII should precede Chapter VI, a more correct chronology of the small wars of the 19th century should have been observed. But, in spite of what the author says in his preface, the real defect of the book, as a serious contribution to the study of British military history, seems to lie in the somewhat sketchy bibliographical notes that conclude each chapter. Had these been compiled more thoroughly, they would have done much to raise the book to a much higher standard of utility. The question of the military policy that lay behind the various changes in the organization and distribution of the Army is insufficiently touched upon; the actual attempts at re-organization, not only of tactics and of personnel, but also of the higher command and administration of the Army are not adequately explained, e.g., the Cardwell reforms, perhaps the turning point of our modern Army without which the Haldane re-organization might have been based on foundations too weak to bear the weight of the new structure.

The pictures drawn of the Cromwellian, Marlburian and Wellingtonian battles give life to these otherwise rather prosy chapters. Yet even in a popular history of this kind one regrets that the author has not seen it possible to call attention to the more tactical aspects of the various campaigns which he describes, more particularly of the difficulties encountered by our troops in the American Wars. At the present day it would have been invaluable to show more definitely how the troops were again and again set hopeless tasks owing to a faulty conception of war in high places at home. More stress might have been laid on that interesting action of Maida, in 1806, highly interesting, indeed, because of its tactical consequences. There is all too little reference to the peculiar organization and work of the Royal Artillery and Royal Engineers in the past.

The Egyptian campaigns deserve an entire chapter to themselves. Lastly there seems to be insufficient attention paid to the numbers, organization and value of foreign mercenary troops employed by Great Britain in the 18th and 19th centuries; the same applies to the native regiments and formations that have played so considerable a part in the wars of the past hundred years.

Nevertheless it would be unjust to withhold commendation from a book which attempts to fill a gap and which will, or should, find a useful place in every mess library if not on the bookshelves of larger public institutions. The style if uninspired, is readable; the outline of the facts is clear and seems correctly given. It well deserves to run to a second edition, if only so as to be offered to the public, both military and civilian, in a more complete and revised form.

**V. Löbell's Jahresberichte über das Heer-und Kriegswesen: XLIII** Jahrgang, 1926. (Published by E. S. Mittler & Sohn, Berlin.)

This well-known annual has made a welcome re-appearance after an eclipse of thirteen years. It is a truly remarkable production in every sense of the word.

Within the compass of 325 pages there is collected a mine of military information and criticism such as could be found nowhere else in a like space. This result is obtained by a severely condensed style, a rigid employment of abbreviations, and a skilful use of "bird-cage" tables. The volume is one that should be used for reference; for such purpose it will respond readily to every reasonable test.

The tone of the whole work is refreshingly free from any exaggeration or ill-feeling, and is, with a very few exceptions, strictly impartial. In fact this can be characterised as a thoroughly praiseworthy and important publication.

The first 160 pages are devoted to an analysis of every existing army, including those of South American Republics and even of Afghanistan. The information is given under a number of headings, varying with the importance of the Army discussed. The military forces of the British Empire are considered under three sections: the Home Country, India, and the Dominions (inclusive of the Irish Free State). This information is compressed into sixteen pages. All the "new" European countries are treated in turn, and the few comments that are allowed to appear on the state of training and morale of these forces, seem illuminating and sensible. The military forces of France and of Russia come in for a careful analysis; both are thoroughly enlightening, more particularly the pages devoted to Soviet Russia. The ideas underlying the unfinished re-organization of the French Army are explained and the French native forces in Africa subjected to rigorous calculations. It is established that out of a total peace strength of about 740,000 men, there are only some 375,000 conscripts of pure French birth. The organization of the Soviet Russian forces (including even Tank Regiments and a "Chemical" Instructional Battalion) is treated with meticulous care in a long table.

Part II, consisting of about 100 pages, is a compendium of the progress made by tactics and weapons—mainly during the year 1925. It is interesting to note the importance attached to British affairs of this nature (what a change since 1913!). The French and British manoeuvres of 1925 are briefly described and criticized. Under the section devoted to infantry tactics it is interesting to read the studied German opinion of the British infantry of 1914, as possessing "skill in utilization of terrain . . . rapidity and skill in individual combat . . . staying power and tenacity . . . when surprised it often recovered its composure with comparative quickness and assumed a determined defensive attitude." On the other hand, it is maintained that subordinate leaders lacked initiative. This, however, is all by the way; for the four pages devoted to British infantry tactics are replete with comments on the latest opinions that have been published in this country. Twenty pages are devoted to the progress made by the world's aviation; the development and resources of material are discussed at length and there is an admirable summary of the air policy of France and of Great Britain. France, it might be mentioned, is described as the greatest air power of the world. The development of artillery is treated in detail, but there is little new that is recorded beyond a long list of experiments with new types of ordnance; it would appear that the world cannot yet afford to re-arm. Chemical warfare is discussed and reference made to four British writers on this subject (one is Major Macpherson, who wrote in the R.U.S.I. JOURNAL for May, 1925). The tables of modern military rifles and machine guns is characteristically thorough; the artillery tables are equally detailed, yet no reference is made to the British mountain gun. A section on veterinary matters is noteworthy for the praise bestowed on the British Army Veterinary Corps and its organization.

Part III contains a bibliography—chiefly German publications confined to the Great War.

Part IV is a brief summary of the operations that took place in Morocco during 1925.

### REGIMENTAL HISTORIES

**Essex Units in the War, 1914-1919.** Vol. III: The Essex Yeomanry. By John William Burrows, F.S.A. (John H. Burrows & Sons, Ltd., Southend-on-Sea.) 5/-.

There can be no doubt as to the amount of energy and research which has been expended on this volume. The result is an interesting and well-balanced work, freely illustrated, of which the first half, dealing with the genesis of the Yeomanry movement in the county, is of great historical interest and value. In the second half—equally interesting—is set down the story of the Regiment in the Great War, and its three great actions—Frezenberg (1915), Monchy-le-Preux (1917) and Villers Bretonneux (1918)—are well described; they are most instructive, in that they typify some of the diverse uses to which mounted troops were put in France. Casualties, awards, and so forth, are given in, the usual appendices.

**The Die-Hards in the Great War: A History of the Duke of Cambridge's Own** (Middlesex Regiment), 1914-1919. Compiled from the Records of the Line, Special Reserve, Service, and Territorial Battalions. By Everard Wyrall. Vol. I, 1914-1916. With a Foreword by General Sir Ivor Maxse, K.C.B., C.V.O., D.S.O., Colonel of the Regiment.

This is a full and well written account of the mobilization, expansion and activities of all the various battalions of this Regiment up to and inclusive of the Somme fighting. There are several maps and a serviceable index. Altogether an admirable instance of a good regimental history, containing a sufficiency of historical and personal detail, while yet preserving a story that will dovetail very well into the normal reader's more general knowledge of the war. It should, moreover, appeal to the officers and men of the Regiment in search of a record of the exploits of their battalions.

**History of the King's Own Yorkshire Light Infantry.** By Colonel H. C. Wylly, C.B. Volumes I and II.

Two volumes of this history have been received. The first begins with the formation of the Regiment in the middle of the 18th century and ends with the Afghan War, of 1881; the second picks up the narrative at that point and carries it down to the mobilization of 1914. This history is written on a lavish scale. It gives a mass of detail concerning medals, uniforms and personalities. There are numerous portraits, some of considerable interest. These volumes provide a wealth of detail for the student and historian, and bear every impression of having been compiled with meticulous care. The style is fluent and clear.

**The Green Howards in the Great War.** By Colonel H. C. Wylly, C.B. With a Foreword by General Sir E. S. Bulfin, K.C.B., Colonel of the Regiment.

This history covers the Great War and the Third Afghan War. The history is split up into chapters, each of which is devoted to the action of a single battalion, including where necessary a rough outline of its formation. This plan having been adopted it is strange to find Chapter II devoted in great part to the Afghan War of 1919; this is, however, due to the fact that the 1st Battalion, the subject of this chapter, never left India throughout the Great War. The scale of this history is not very detailed. There are several photographs all of which, however, are of a more personal character than of historical value. It is eminently a regimental history that will appeal to the men who served in the Regiment rather than to the seeker after historical fact. It is, however, quite nicely written.

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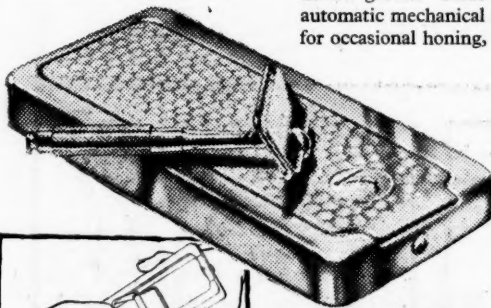
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CAMBRAI (contd): THE BATTLE OF  
EPHEU.  
A TRIBAL CUSTOM.  
GENERAL DE ZIETEN.  
OUR FIRST BILLET.  
HYDER ALLY: THE LION OF  
MYSORE.  
ADMINISTRATION IN THE FIELD.  
IN THE FOOTSTEPS OF WELLINGTON.  
THE PESHAWAR VALE HUNT, 1876-  
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